CONNECTICUT DEPARTMENT OF TRANSPORTATION

DIGITAL PROJECT DEVELOPMENT MANUAL

Version 2.0

INTRODUCTION

This document is for Consultant and State Employees responsible for the production or review of digital contract plans, specifications, supplemental contract documents, and contractor submittals. This document covers the development, review and commenting, and submission of digitally signed contract plans in PDF format including revisions, the delivery of specifications in Microsoft Word format, the delivery of supplemental contract documentation in PDF format, and the delievery of contractor submittals in PDF format. This manual also includes sections on the usability of these PDF documents.

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DEFINITIONS

ACD – The attribute applied to a revision requested by the Processing unit to an ADP discipline subset.

ACD2 – The attribute applied to a revision requested by the Processing unit to an ACD discipline subset.

ADP – The attribute applied to an Addendum discipline subset.

DCD – The attribute applied to a revision requested by the Processing unit to an FDP discipline subset.

DCD2 – The attribute applied to a revision requested by the Processing unit to a DCD discipline subset.

Discipline Subset – A multi-page PDF document that includes all the contract plan sheets for a discipline. Example would be all the structures sheets would be packaged in (1) multi-page PDF document.

DCO – The attribute applied to a design initiated change order discipline subset.

DPD Manual – Digital Project Development Manual.

Engineer of Record – The engineer's digital signature that is applied to the discipline subsets. For CTDOT staff this would be the Principal Engineer.

FDP –The attribute applied to a final design plans discipline subset.

FIO – The attribute applied to a "for information only" discipline subset.

FPL – The attribute applied to an advertised FDP discipline subset

Project Manager – Lead designer on the project. For CTDOT staff this would be the TE 3 or Supervisor of the lead discipline or consultant liaison TE3 or Supervisor.

Projectwise - CTDOT is currently using Bentley's ProjectWise as a data management software for digital projects. Projectwise allows the CTDOT, and authorized business partners to access its data anywhere internet access is available. Projectwise shall be used by all consultant engineers delivering digital contract documents.

STD – The attribute applied to the "CTDOT Standard Drawings" discipline subsets.

WDP – The attribute applied to working drawing submittals. This includes the plans, calculations, or any supplemental documents in the submittal.

WDP2 – The attribute applied to a revised WDP submittal.

Section 1 Digital Contract Plans, Specifications, and Supplemental Contract Documents

1.1 Final Design Document Deliverable

The following contract documents shall be submitted into Projectwise when delivering a digital project, see Section 3 of this document for submittal procedures for the above documents: For CTDOT designed projects each discipline is responsible for uploading their documents into Projectwise.

- Contract Plans
- Contract Specifications
- Supplemental Contract Documents - Include but not limited to the following:
    - CE Design PW Checklist
    - Proposal Estimate, with signed checklist
    - Federal Estimate
    - Calendar Day Estimate
    - Final Design Report
    - Categorical Exclusion
    - Design Approval Letter
    - Environmental Permits
    - DBE/SBE Approval with percentage
    - Commitment list
    - Agreements
    - Proprietary Item Approval
    - Standalone Transportation Management Plan Document, taken from the final design report

1.2 Requesting a Digital Project

The following fill able PDF form must be completed and returned to AEC applications by State Design or CTDOT Consultant Liaison personnel to request a digital project: ProjectWise Project Request Form

1.3 Prerequisites and Policies

1. All contract plans prepared by a CT licensed Engineer or CT licensed Architect shall be digitally signed in accordance with this manual. All contract plans, specifications, and supplemental contracts documents will only be accepted by the CTDOT if they meet all the requirements of this manual. Approval for additional development and testing of digital documents and procedures shall come from the CTDOT Office of Quality Assurance.
2. Digital contract plans, in the following stages: Final Design Plans (FDP), Design Completion Data (DCD), Addenda, Addenda Completion Data (ACD), Design Initiated Change Order (DCO), and Working Drawing (WDP) shall be digitally signed in conformance with this manual.
    a. Digital signatures must meet the requirements of Adobe's Certified Document Services (CDS).
    b. CDS, and CDS vendor information is provided at the following website: http://www.adobe.com/security/partners_cds.html
3. After contract plans have been advertised, the digital signature is not allowed to be removed.

4. Standard Computer Aided Design (CAD) Applications shall conform to those listed here http://www.ct.gov/dot/digitaldesign..
5. Use of digital signatures not conforming to the requirements of this manual must be approved by both the Office of Quality Assurance, and the Office of Legal Services.
6. This manual is designed to be used with the latest CTDOT Digital Design Environment.
7. Digital Contract Specifications shall be prepared in accordance with the Departments policies and procedures for Contract Development.
8. Supplemental contracts documents shall be submitted digitally in PDF format. See Section 3.2.8 for supplemental contract document list and submission procedures.
9. The Consulting Engineer acknowledges and agrees that Contract Plans submitted using the [Digital Submission Procedure set forth in this Manual] has the same force and effect for the purposes of the Consulting Engineer's agreement with the State as a signature and seal of a Connecticut Licensed Professional Engineer or Architect as set forth in § 20-300-10 of the Regulations of Connecticut State Agencies or § 20-293 of the Connecticut General Statutes, as applicable. Nothing in this DPD Manual serves as an authorization for, or endorsement of, the use of this [Digital Submission Procedure] generally by the Consulting Engineer, its subcontractor(s), or any Connecticut Licensed Professional Engineer or Architect with respect to other work it performs for the State or work it performs for other clients.
10. Version 9.0 of Adobe Acrobat was used in the production of all figures and procedures in this manual.
11. When on call consultants are used for CTDOT projects, the title sheet shall be digitally signed by CTDOT following the procedure in Section 2.6.1 of this manual.

1.4 Format

1. Digital contract plans (preliminary, semifinal, FDP, etc.), working drawing plans and shop drawing plans shall be in PDF format; PDF Plans must be sized either 36" x 24" for projects created before 6/2007 and sized 34" x 22" for projects created after 6/ 2007; PDF plans shall be measurable to scale in the PDF; PDF plans shall be able to be printed to paper and scaled appropriately; text must be searchable; and all levels must have the ability to be displayed on or off, unless approved otherwise. All information on the digital contract PDF plans shall have been created from MicroStation or an approved alternate. The only information that shall be added to the plans using a PDF editing software are as follows:
    a. Sheet numbers (see Section 1.6.2)
    b. Page labels (see Section 1.7)
    c. Watermark (see Section 2.4)
    d. Any digital signature fields (see Section 2.5)
    e. Digital Signature (see Section 2.6)
2. Contract plans shall be grouped, by discipline into individual PDF files called discipline subsets; examples: 01_General, 02_Revisions, 03_Highway, 04_Bridge, etc. See Section 1.11 & 1.12 for more examples of discipline subsets.
3. Plans *For Information Only* (FIO) shall be submitted digitally, in individual subsets based on the entity providing the information, Amtrak, CL & P, AT&T, Designer etc. These subsets do not require a digital signature, but each sheet in the subset shall be labeled; "For Information Only". The subset numbers shall be selected by the lead designer so that the FIO subsets are last. Each sheet shall be numbered correctly, see Section 1.6.2.   Upload and attribute in accordance with Section 3.2.
4. Utility drawings shall be submitted in accordance with the following:
    a. Utility plans *For Information Only* (FIO) shall be submitted in a utility subset based on the utility company, AT&T subset, CL&P subset, etc. These subsets do not require a digital signature, but each sheet shall be labeled; "For Information Only". FIO utility subsets shall be numbered so that they are the last subsets. Example Labels; 10_CL&P_FIO, 11_AT&T_FIO

      b. Utility company designed plans that include work being done by the States Contractor shall be submitted in a utility subset based on the utility company, AT&T subset, CL&P subset, etc. These subsets do not require a digital signature. Example Labels; 10_CL&P, 11_AT&T

      c. Utility plans that are designed by Utility or State Consultants firms that include work being done by the States Contractor shall be submitted in a utility subset based on the utility company, AT&T subset, CL&P subset, etc., and shall be digitally signed in accordance with this manual. Example Labels; 10_CL&P, 11_AT&T

5. See Section 3.2 for uploading and attributing Utility Plans. See Section 1.11 & 1.12 for more examples of discipline subsets.

6. CTDOT Standard sheets shall also be delivered digitally. For each project always download the standards from the CTDOT website to insure the most recent standards are included in the project.   The workflow Assembling_CTDOT_Standard_Sheets.pdf explains how to obtain, create standard sheet subsets, and insert them into a digital project. For submission of CTDOT Standard Sheets, see Section 3.2.

7. The first and second subsets in the project must always be the 01_General and 02_Revisions respectively. The Project Manager is responsible for determining the order of all other discipline subsets, Sections 1.11 and 1.12 show examples.

8. Discipline subsets shall contain a maximum of 150 sheets.

9. Discipline subsets shall be published directly from a CAD application. Scanned images or raster image formats will not be accepted.

10. Footers, displaying the sheet number, shall be placed on each page of each PDF subset. See Section 1.6.2, "Sheet Numbering"

11. Each subset shall contain bookmarks; one for each page. Figure 1 displays an example of bookmarks. See Publishing_MicroStation_Content_to_ PDF_Format.pdf for more instructions.

      a. Figure 1 also displays examples of subgroup folders. While publishing, subgroups may be created to contain similar sheets. See Publishing_MicroStation_Content_to_ PDF_Format.pdf for more instructions.

12. Levels with the appropriate CTDOT names shall have the ability to be displayed on or off within the PDF document.

13. The first page of the subset 01_General shall be the CTDOT digital project title sheet which includes an index of the subsets contained within the project, sheet count totals for all subsets, a list of drawings for the 01_General Subset, and an area(s) reserved for applying the digital signature(s).

      Link to digital title sheet:
      Digital Title Sheet

CTDOT engineers can find the digital title sheet in the seed files on our W: drive.

14. The 01-General subset shall include all detailed estimate sheets.

15. The 02_Revisions subset must be included in each digital project and there shall only be (1) revisions subset.

16. Subset 02_Revisions shall contain only revision sheet(s), titled "Index of Revisions", See Section 4.3. These revision sheets are used for tracking all sheet changes due to addenda and design initiated change order (DCO) with respect to the entire project. These sheets are originally blank and unsigned, and shall be managed and updated as needed by the Project Manager. The CTDOT Revision Contract Sheets can be obtained here:

      CTDOT Designed Projects - 02-Revisions Subset
      Consultant Designed Projects -   02-Revisions_CE_Subset

17. The first page of each subset shall be a subset cover sheet. This cover sheet shall contain both; an index of drawings contained within the subset that includes both drawing numbers and drawing titles and the form field place holder(s) which receives the digital signatures. The following cell has a table for the index of drawings and the digital signature cell place holder BDR_Discipline_Cover Sheet cell. See figure 1 for an example.

18. Digital Contract Specifications shall be submitted in MS Word format and in accordance with the Departments policies and procedures for Contract Development. CSI special provisions shall be submitted in pdf format.
    a. For projects where a consultant is the Project Manager on the project, the Specification and CSI special provisions submittals shall be submitted in (1) zipped folder, see section 3.2.6.
    b. For projects where a CTDOT design unit is the Project Manager on the project, the Specification and CSI special provisions shall be submitted in individual zipped folders per discipline, see section 3.2.6.
    c. Design Initiated Change Orders shall be place in (1) pdf document, with "C#" and the date in the header. An example would be "Rev. C1 - mm/dd/yy".
19. Supplemental documents shall be 8.5" x 11" pdf documents, except the proposal estimate which shall be in ".est" format. Documents that require signatures may be scanned with a minimum resolution of 200 dpi, and size = 8.5"x11". These documents **do not** need to be digitally signed.
20. As-built information shall be digitally applied to the contract subsets by District Personnel after the job is complete using Adobe Acrobat Professional or Bluebeam. See section 4.5.
21. Working Drawing calculations shall be in (1) pdf document with a page size of 8.5" x 11" and be digitally signed in accordance with Section 2.6. Any supplemental documents that are included in the Working Drawing submittal shall be 8.5" x 11" pdf documents. Documents that require signatures may be scanned with a minimum resolution of 200 dpi, and size = 8.5"x11". These documents need to digitally signed in accordance with Section 2.6.

Using a discipline subset format streamlines both the development of contract plans and the administration of the plans during preliminary design, FDP, DCD, Addenda, DCO and As-Built submissions. Moreover, it also leverages the ability to digitally sign the individual discipline based contract plan subsets per designer.
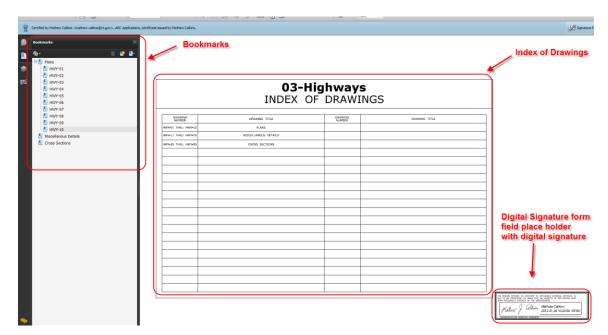

Figure 1 Discipline Subset Bookmarks, Index of Drawings, & Signature fields

See Section 2.5 for digital signature form field place holder cells.

1.5 File Naming

1.5.1 Contract Plans (discipline subsets)

The file name shall match the discipline subset name. For example, the 02_Revisions subset shall have the file name 02_Revisions.pdf. However, this name will change during the uploading and attributing of the file into Projectwise. See section 3.2 Project DataTransmission.

1.5.2 Specifications

FDP and Addendum

These specifications shall be individual word documents placed in a zipped folder. CTDOT processing shall combine all specifications into (1) PDF document and upload this into Projectwise. See section 3.2.5.

Design Initiated Change Orders

These specification(s) shall be packaged in (1) pdf document and uploaded into projectwise. See section 3.2.5.

1.6 Contract Plan Drawing and Sheet Numbering
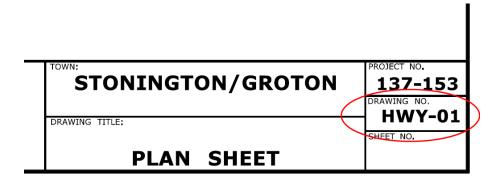
1.6.1 Drawing Number

The drawing number is used primarily for sheet to sheet referencing, typically in, but not limited to; section details, section cuts, and detail callouts. Drawing numbers in digital contracts shall consist of the discipline designator followed by a hyphen and the sheet number. The discipline designator shall remain constant across each discipline subset. For example; a highway subsets discipline designator shall be "HWY", therefore any sheets in the highway discipline subset would contain the following drawing numbers; HWY-01, HWY-02, etc.

Discipline subsets can be as broad or specific as the Project Manager would like. An example would be the highway sheets can be split out into multiple subsets. They can place all the profiles in one discipline subset where the drawing number would be PRO - ## and they can place all cross sections in another discipline subset, where the drawing numbers would be XSC - ##.

The CTDOT efficiently maintains the drawing numbers in MicroStation using the model properties and project explorer, See the following workflow Project Explorer to Manage Drawing Numbers

The first sheet in a discipline subset shall have "01" in the drawing number as shown below:

Figure 2 Contract Drawing Numbering

1.6.2 Sheet Numbers

Sheet numbers are applied to the discipline subset after the contract plans are published to PDF.

Sheet numbers shall be managed and placed on the discipline subsets, using the header and footer tool within Adobe Acrobat or Bluebeam. Sheet numbers shall be applied to all submissions of contract plans.

The first sheet in every subset shall start out at 1. For example the first sheet in the 03-Bridge subset shall be 03.01.

The sheet number place holder shall be determined by the total estimated sheet count. For less than 100 sheets two place holders is adequate. For greater than or equal to 100 sheets three place holders are necessary.

The sheet number must be placed correctly because it is used to correctly assemble the contract plans into a properly ordered consolidated set.

Sheet numbers for an Addendum need to have ".A##" at the end and Change Orders need to have a ".C##" at the end (see section 4) and Working drawings need to have a ".WD" at the end (see section 6).

Single Volume Projects:

The sheet number, for single volume projects shall be a concatenation of the discipline subset number, a decimal point, and the sheet number. For example; the sheet numbers for subset "4" would be as follows; less than 100 sheets 04.01, 04.02, 04.03, etc or Greater than 100 sheets 04.001, 04.002, 04.003 etc.

The Project Manager should determine the total number of subsets and give each discipline their corresponding subset number, see section 1.11.

Multi Volume Projects:

For a multi volume project the sheet number shall be a concatenation of the volume number, a decimal point, the discipline subset number, a decimal point, and finally the sheet number. Example: Volume 2, Subset 5; 02.05.01, 02.05.02, 02.05.01.

Volume numbers shall be used on large projects. They are effective because the Project Manager only has to deliver to the other engineers their perspective volume numbers, allowing them to manage their subset numbers independently of the other discipline volumes and subset counts, see section 1.12.

Subsets numbers shall start at 01 for all volumes.

Created in Microstation

TOWN:	PROJECT NO.
STONINGTON/GROTON	**137-153**

DRAWING NO.
HWY-01

DRAWING TITLE:

Created in Adobe or Bluebeam in the footer

SHEET NO.

PLAN   SHEET | **03.01**
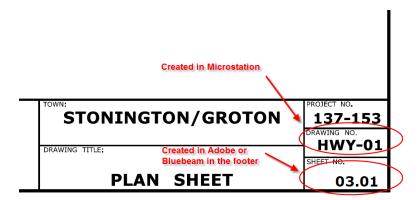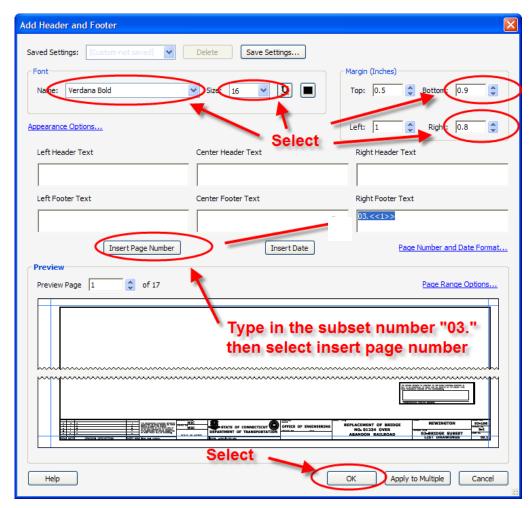
Figure 3 - Drawing and Sheet Numbering

1.6.2.1   ADOBE - Applying Sheet Numbers

The following workflow gives an example of placing sheet numbers on a single volume project on the '03" subset that contains fewer than 100 sheets. The sheet numbers are added using the Header and Footer tool in Adobe Acrobat.

1. From Adobe Acrobat select "Document/Header & Footer/Add"
2. Place the sheet numbers on all sheets, as shown below.

Figure 4 Sheet Numbering

After placing all the sheet numbers, sheets # 1-9 need to be updated to include a zero in front of them, so these sheets have the correct number of place holders.

3. Select Header & Footer>Update. Follow the figure below for inserting the zero on pages 1 thru 9.
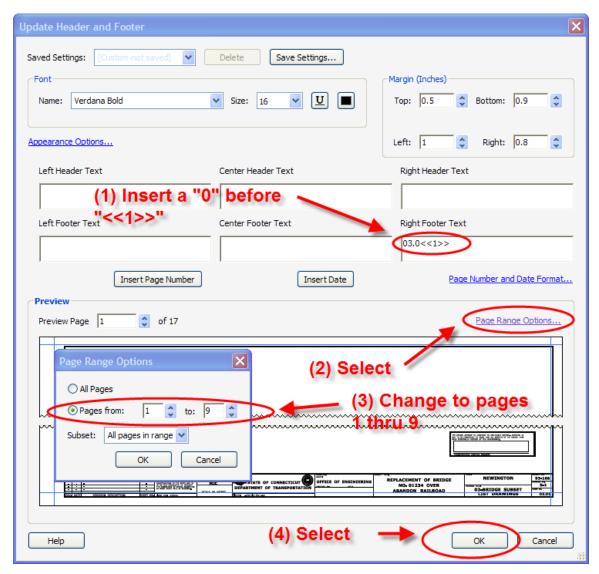
Figure 5 - Inserting Sheet Numbers
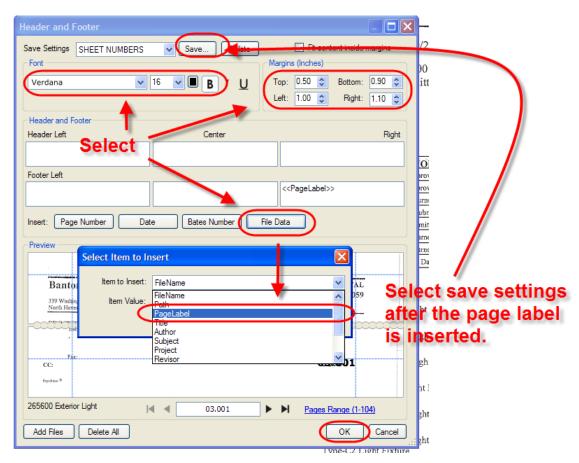
For discipline subsets with over 100 contract plan sheets, steps 1-3 will have to be done three times because there is no way to label sheets 1-99 with the correct number of place holder (zeros), consecutively. To label the sheet numbers correctly, the following three steps must be followed:

1. All sheets are given sheet numbers.
2. Sheets 1 thru 99 are updated to sheet numbers 01 thru 099.
3. Sheets 1 thru 9 are updated to sheet number 001 thru 009.

1.6.2.2   BLUEBEAM - Applying Sheet Numbers

Section 1.7 should be followed before the sheet numbers are applied. We will be able to apply the page labels as the sheet numbers.
1. From Bluebeam select "Document>Header & Footer"
2. Place the sheet numbers, as shown below:

Figure 6 - Insert sheet Numbers

1.7 Page Labels

Page labels are required to be changed to match the sheet number on the contract sheets. The page labels are used by a consolidation software to combine all the Final plans, Addendum plans, and change order plans into one set.

1.7.1 ADOBE – Page Labels

This example shows the page labels for the 03 subset that has over 100 pages. The page labels must match the format of the sheet numbers.

1. In the Pages (thumbnail) pane, right click and select Number Pages.
2. Page label sheets 100-104 using the figure below.

Figure 7 - Page Labeling

3. Page label sheets 010-099 using the figure below:

Figure 8 - Page Labeling

4. Page label sheets 001-009 using the figure below:

Figure 9 - Page Labeling

1.7.2 BLUEBEAM- Page Labels

This example shows the page labels for the 03 subset that has over 100 pages. The page labels must match the format of the sheet numbers.

1. In the thumbnail pane, right click and select Number Pages.
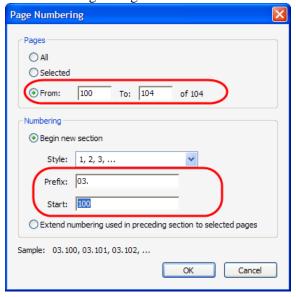2. Page label sheets 001- 009 using the figure below.

Figure 10- Page Labeling

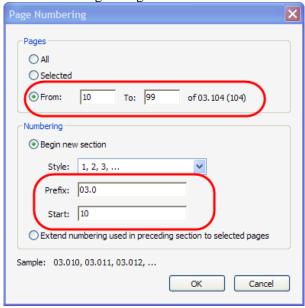3. Page Label sheets 010-099 using the figure below:

Figure 11 - Page Labeling
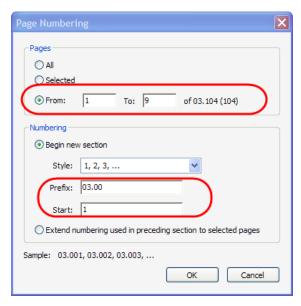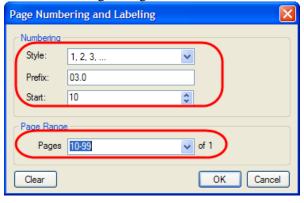
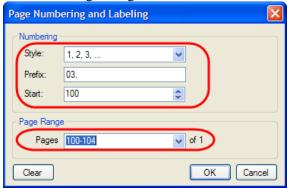4. Page label sheets 100-104 using the figure below:

Figure 12 - Page Labeling

1.8   CTDOT For Information Only Sheets

Plans provided *For Information Only* (FIO) shall be submitted digitally, in individual subsets based on the entity providing the information, Amtrak, CL & P, AT&T, Designer etc. These subsets do not require a digital signature, but each sheet in the subset shall be labeled; "For Information Only". These sheets shall be numbered in accordance with section 1.6.2.

The subset numbers shall be selected by the Project Manager so that the FIO subsets are last. See Section 3.2 for uploading and attributing FIO Plans. See Section 1.11 & 1.12 for more examples of discipline subsets. Information only sheets may be scanned, but must conform to the following specifications; Minimum Size 22"x34", Minimum dpi = 300.

1.9 CTDOT Standard Sheets

Standard sheets shall also be delivered digitally. The workflow Assembling_CTDOT_Standard_Sheets.pdf explains how to obtain, create standard sheet subsets, and insert them into a digital project. For submission of CTDOT Standard Sheets, see section 3.2.

1.10 Contract Plan Sheet Publishing

CTDOT currently uses MicroStation V8i Print Plot and Print Organizer to publish contract plans to a PDF format.

The workflow Publishing_MicroStation_Content_to_ PDF_Format.pdf shows the fundamentals of publishing contract plans to PDF from MicroStation.

1.11 Example: Typ. Single Volume Digital Contract

Single volume digital contracts are used when each discipline or consulting firm designing the project is responsible for 3 subsets or less. The following is an example of a single volume project. Note: The first and second subsets shall always be 01-General and 02-Revisions. The

03 subset does not always need to be 03-Highways, the 04 does not always need to be 04-Structure, etc. The FIO subsets shall be placed at the end of a project right before the STD subsets.

Label (Discipline Subset)	File contents (but not limited to)	
01-General	Title Sheet Detail Estimate Sheet Etc	
02-Revisions	Index of Revisions Sheets	
03-Highways**	Index of Plans Survey Data Alignments ROW Typ Sections Misc Details Intersect Grading	Boring Logs Highway Plans Breakout Drainage Highway Profile Highway X-Sections Landscape Plan Wetland Mitigation
04-Structure	Index of Drawings All Structure Sheets Note: Multiple subsets may required for multiple Sites Ex: 04_Structure_Br.No.1266	
05-Traffic	Index of Drawings Signing Pavement Markings MPT Traffic Signal Plans Etc.	
06-Environmental	Index of Drawings All Environmental Compliance Sheets required	
07-"Utiltiy"	Utility Design plans. For example 07_AT & T, 07_CL & P, 07_MDC, etc.	
08-CL&P FIO***	CL & P For Information Only plans	
09-AT&T FIO***	AT & T For Information Only plans	
CTDOT Highway STD	* CTDOT Highway Design Standard Index and Sheets required	
CTDOT Traffic STD	* CTDOT Traffic Engineering Standard Index and Sheets required	

Figure 13 Typical Highway Project Discipline Subset Contents

* For using CTDOT Standard Sheets see 1.5 CTDOT Standard Sheet Assembly
** If a discipline has to be broken up into more than one subset See Section 1.11 for splitting up the discipline subsets.
*** For Information only discipline subset shall be submitted as individual pdf files based on the entity providing the information only.

1.12 Example: Multiple Volume Digital Contract

Multiple volumes are used if the project has 1 or more of the following characteristics:
1. The majority of the discipline/firm designers are responsible for more than 3 subsets each. This allows the individual designers to number their subsets independently of the other disciplines.

2. There are multiple sites on the project. Splitting these sites up into volumes will provide better organization of the project.

The larger the project is, typically the more subsets will be required and their labels will be more specific.   The Project Manager will need to organize the discipline volumes. The subsets shall be split up by volume and each volume shall be controlled by its assigned designer. For example, all the subsets designed by the highway designer shall be in the same volume (02) and each subset shall have a unique subset number. For example, see subset 02.02_Alignments and 02.03_Plans as shown below.

Label (Discipline Subset)	File contents (but not limited to)	Designer/ Firm
01.01-General	Title Sheet, Detail Estimate Sheet Etc	Lead
01.02-Revisions	Index of Revision Sheets	Lead
01.03-Wtlnd Re-establish	Wetland Reestablishment plans	Designer 1
01.04-Stg Acc.	Staging and Access Plans	Designer 1
02.01-Typ Sections	Typical Sections	Designer 2
02.02-Alignments	Alignment Geometry	Designer 2
02.03-Plan	Plans	Designer 2
02.04-Profiles	Profiles	Designer 2
02.05-ROW Brk	Right of Way Breakout	Designer 2
02.06-Drain	Drainage Plans	Designer 2
03.01-Retaining Wall 1	Retaining wall details	Designer 3
03.02-Retaining Wall 2	Retaining wall details	Designer 3
03.03-Bridge 00456	Bridge_456	Designer 3
03.04-Bridge 01983	Bridge_1983	Designer 3
03.05-Bridge 01984	Bridge_1984	Designer 3
04.01-Stage 1	Stage Construction Details 1	Designer 4
04.02-Stage 2	Stage Construction Details 2	Designer 4
04.03-Stage 3	Stage Construction Details 3	Designer 4
05.01-SPM	Signing and Pavement Marking Site 1	Designer 5
05.02-SPM	Signing and Pavement Marking Site 2	Designer 5
05.03-SPM	Signing and Pavement Marking Site 3	Designer 5
06.01-IMS	IMS Plans and Details Site1,2,3	Designer 6
07.01-Env 1	Environmental Details Site 1	Designer 7
07.02-Env 2	Environmental Details Site 2	Designer 7
07.03-Env 3	Environmental Details Site 3	Designer 7
08.01-"Utiltiy"	Utility Design plans. For example 07_AT & T, 07_CL & P, 07_MDC, etc.	Designer 8
09.01-CL&P FIO	CL & P For Information Only plans	Designer 8
09.02-AT&T FIO	AT & T For Information Only plans	Designer 8
CTDOT Highway STD	* CTDOT Highway Design Standard Index and Sheets required	Designer 1
CTDOT Traffic STD	* CTDOT Traffic Engineering Standard Index and Sheets required	Designer 5

Figure 14 – Multiple Design Firms CTDOT Project Subsets

Label (Discipline Subset)	File contents (but not limited to)	Designer/ Firm

01.01_General	Title Sheet, Detail Estimate Sheet Etc	Lead
01.02_Revisions	Index of Revision Sheets	Lead
01.03_Wtlnd_Re-establish	Wetland Reestablishment plans	Designer 1
01.04_Stg_Acc.	Staging and Access Plans	Designer 1
02.01_Typ_Sections	Typical Sections	Designer 2
02.02_Alignments	Alignment Geometry	Designer 2
02.03_Plan	Plans	Designer 2
02.04_Profiles	Profiles	Designer 2
02.05_ROW_Brk	Right of Way Breakout	Designer 2
02.06_Drain	Drainage Plans	Designer 2
03.01_Branford_Station	Branford Station	Designer 2
03.02_Retaining_wall_2	Retaining wall details	Designer 2
03.03_Architectural	Architectural Details	Designer 2
03.03_Mechanical	Mechanical Details	Designer 2
03.03_Electrical	Electrical Details	Designer 2
04.01_Guilford Station	Guilford Station	Designer 2
04.02_Architectural	Architectural Details	Designer 2
04.03_Mechanical	Mechanical Details	Designer 2
05.01_"Utiltiy"	Utility Design plans. For example 07_AT & T, 07_CL & P, 07_MDC, etc.	Designer3
06.01_CL&P_FIO	CL & P For Information Only plans	Designer 1
06.02_AT&T_FIO	AT & T For Information Only plans	Designer 1
CTDOT_Highway_STD	* CTDOT Highway Design Standard Index and Sheets required	Designer 1
CTDOT_Traffic_STD	* CTDOT Traffic Engineering Standard Index and Sheets required	Designer 2

Figure 15 - Multiple Site CTDOT Facilities Project Subsets

Section 2   Digital Signatures for Contract Plans

This manual refers to digital signatures in two ways: certifying signatures, and signing signatures. The Engineer of Record will always digitally sign using a visible certifying signature. If multiple signatures are required per document, the sub-engineers shall always digitally sign using a visible signing signature after the primary engineer has applied his certifying signature. Certifying signatures allow controlled changes, to the now certified document. These controlled changes include; allowing PDF digital comments, and the application of additional signatures. Signing signatures should always be accompanied by a note listing the sheets the signer is responsible for within a subset. For more information regarding digital signatures see Adobe's Digital Signature User Guide dated March 29th,
2010. http://learn.adobe.com/wiki/download/attachments/52658564/acrobat_reader_security_9x.pdf?version=1

In order to digitally secure a PDF document the signer(s) applies a digital signature(s) to only the first sheet of each discipline subset(s), regardless of the number of pages the subset contains. This single digital signature secures the entire document.

A graphic image of the signer's signature must be created, and shall be used for the following two purposes. First, it shall be attached to the digital signature and displayed when the digital signature is applied. Second, it shall be placed as a watermark on all sheets a particular engineer of record is responsible for, and is digitally signing. The watermark shall be placed on all sheets in a working drawing submittal.

A digital ID must be purchased in order to apply a digital signature. Digital ID's must meet the specifications of Adobe's Certified Document Services (CDS). The necessary hardware and software needed to apply the required digital signatures may be purchased from the vendor list provided at the following website: http://www.adobe.com/security/partners_cds.html, additional information on Adobe's CDS is also available at this website.

2.1 Graphic Image of Signature

The following figure displays an example of both a state designer and a consultant designer's digital signatures, and their accompanying graphic image(s) of their signature(s).

The consultant engineer's graphic image must contain his companies name and address; his signature, his Professional Engineers stamp, or his Professional Architecture Stamp. The state employee's graphic image must contain only his signature. See Below.

Figure 16 - Graphic Image of Signature

Although discipline subsets requires only one digital signature applied to the first page to complete the certification process and ensure security; the CTDOT also requires that all subsequent pages be watermarked with a copy of the engineer of records graphic signature before they are digitally signed. Watermarks containing these signatures are applied using Adobe Acrobat or Bluebeam and are always placed in the border as shown. This is to prove validation of a digital document if printed.
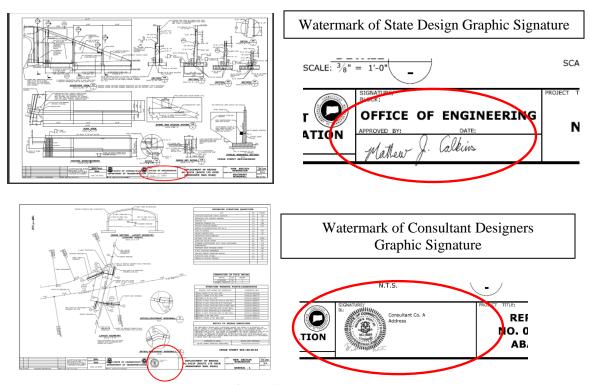

Figure 17 - Watermark

2.2 Creating Graphic Image of Signature:

2.2.1 CTDOT Staff:

The graphic signature of CTDOT employees shall consist of only their signature; P.E. stamps are not required.

The following CTDOT employees need to create graphic images of their signatures: Principal Engineer (required to digitally sign plans), Manager of State Design, and the Engineering Administrator. CTDOT graphic signatures shall be created as follows:

1. Signer must sign a blank piece of paper.
2. Scan this signature.
3. Crop the image so that the image is approximately 300 pixels wide by 100 pixels high.
4. Save the images, in PDF if using Adobe or in Tiff if using Bluebeam, to an area on your PC and send the file to AEC applications.

Figure 18 (Example of CTDOT Graphic Image of Signature – Used with Digital Signature and as a Watermark)

2.2.2 For Consultant Staff:

Consultant Engineers shall create two different graphic signature images: one that shall accompany their digital signatures and a different one that shall be placed as a watermark on all the sheets the designer is signing for.

This section shows an example of a Professional Engineer preparing their graphic image of their signature; Architect's shall follow this section when they are preparing their digital signature.

The graphic signature that shall accompany the digital signature needs only to include the designer's signature and P.E. Stamp. , and shall be created as follows:

1. Stamp and Sign a blank piece of paper.
2. Scan this signature.
3. Crop the image to approximately 250 pixels wide by 250 pixels high.
4. Save the image, in PDF if using Adobe / in Tiff if using Bluebeam, to an area on your PC or server, where you can easily access it for later use in the signature set-up procedure.

Figure 19 ((Example of Consultant Engineer Graphic image of Signature – Applied to 1st page only with digital signature)

In addition to the designer's signature and P.E. Stamp, the graphic signature that is placed as a watermark shall also include the designer's company name and address, and shall be created as follows:

1. On blank paper – Print company name and address.
2. Place P.E. stamp next to company name and address.
3. Sign P.E. Stamp.
4. Scan the image created in steps 1 thru 3 above.
5. Crop the image to approximately 500 pixels wide by 250 pixels high.
6. Save the image, in PDF if using Adobe / in Tiff if using Bluebeam, to an area on your PC or server, where you can easily access it for later use in the watermarking procedure.

Figure 20 (Example of Consultant Engineer Graphic image of Signature – applied to all pages as a watermark)

Once the graphic images have been properly created and saved, the digital signature appearance preferences must be set as follows:

2.3 Setting Digital Signature Appearance Preferences:

Once the graphic signatures are created the digital signature appearance settings must be defined as follows:

2.3.1 Adobe Signature Appearance

1. In Acrobat, go to Edit > Preferences > Security. Check "Verify signatures when the document is opened" and uncheck both "View documents in preview document mode when signing" and "Load security settings from server".
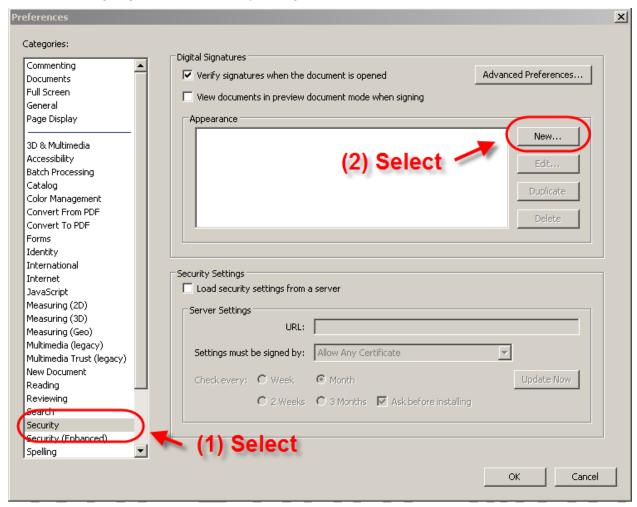

Figure 21 Preferences

2. Click the "New" button to create your digital signature appearance.

3. On the next screen, name your appearance and import your graphic signature, either, a signature only for state employees, or a P.E. stamp and signature, for consultants. In the configure text selection, make sure Name and Date are checked. Select Ok when complete.

Figure 22 Configure Signature Appearance

4. In the Preferences Dialog, see figure 17, go to Advanced Preferences. Select options in each tab in the following figures:
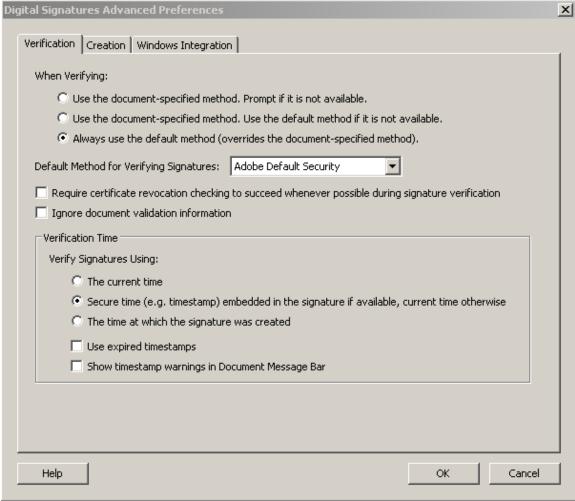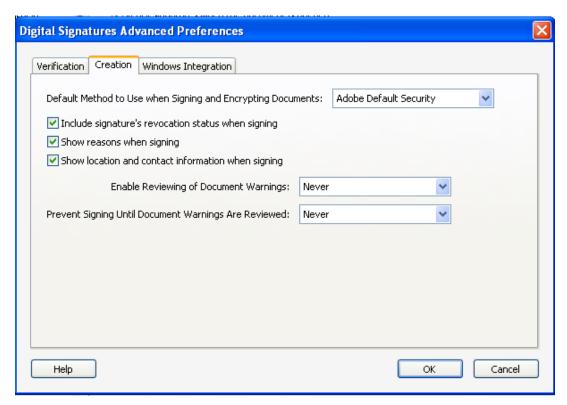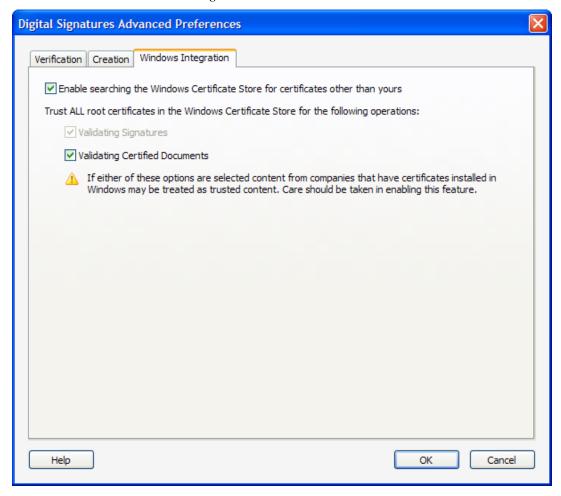

Figure 23 Advanced Preferences

Figure 24 Advanced Preferences

Figure 25 - Windows Integration

2.3.2 Bluebeam Digital Appearance

1. Make sure your CDS USB token is inserted into the computer then in Bluebeam go to Document>Signatures>Digital ID's:
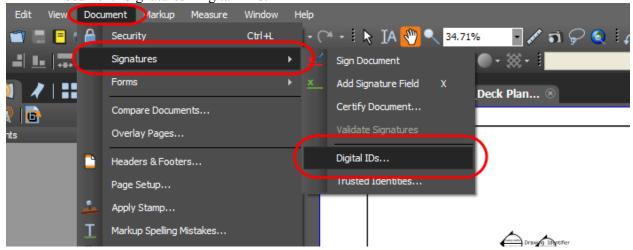

Figure 26 - Digital Appearance

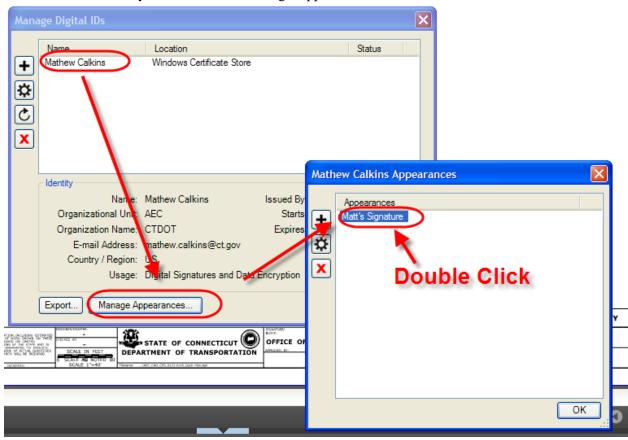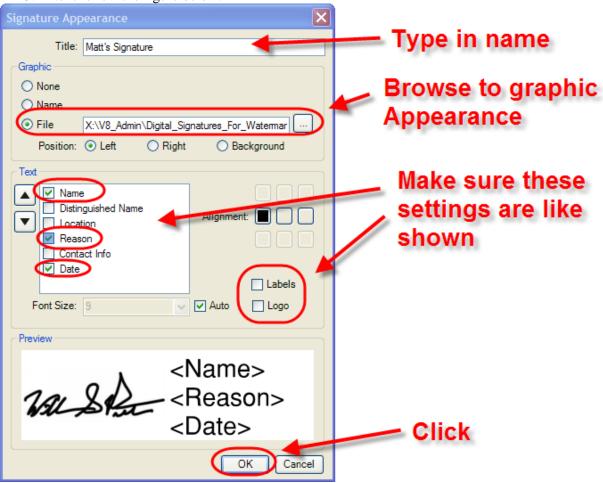2. Next click on your ID and click Manage Appearances:

Figure 27 - Manage Appearances

3. Next follow the figure below:

Figure 28 - Setting the Digital Appearance

4. Now the digital appearance will be saved and can be used to digitally sign.

2.4 Watermarking Plans with Graphic Image of Signature

The Engineer of Record (Principal Engineers for State Design), for each discipline, shall place a copy of their graphic signature as a watermark on each page of each discipline subset, or working drawing submittal that they are responsible for.

2.4.1 Adobe – Watermarking Plans with Graphic Image of Signature

1. From Adobe Acrobat select Document> Watermark>Add.
2. In the Add Watermark dialog box browse to your graphic signature (X:\V8_Admin\Digital_Signatures_For_Watermarks)
3. Adjust Scale Relative to page as shown below.
4. Adjust position as shown below.
5. Shall be placed on all sheets, except on the title sheet in the 01-General subset. This sheet does not need a watermark. See figure below (#5) for selecting page range options.
6. Save settings when complete for future use.

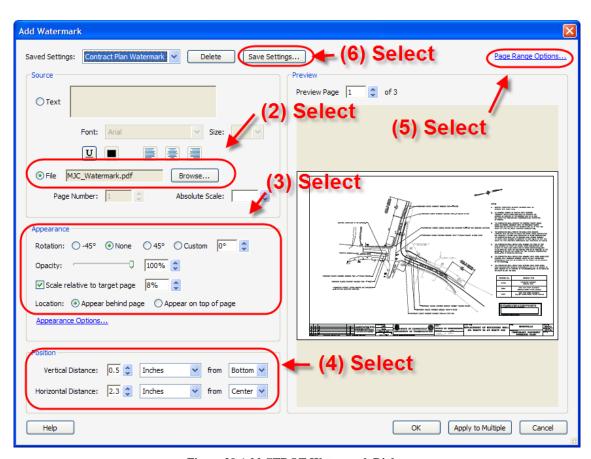### 2.4.1.1   CTDOT Designed Plans
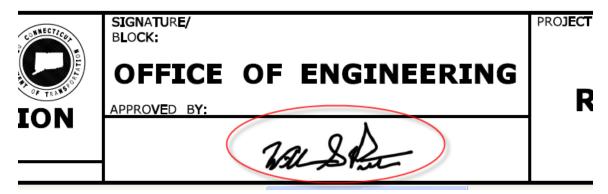

Figure 29 Add CTDOT Watermark Dialog

Figure 30 CTDOT Signature Watermark

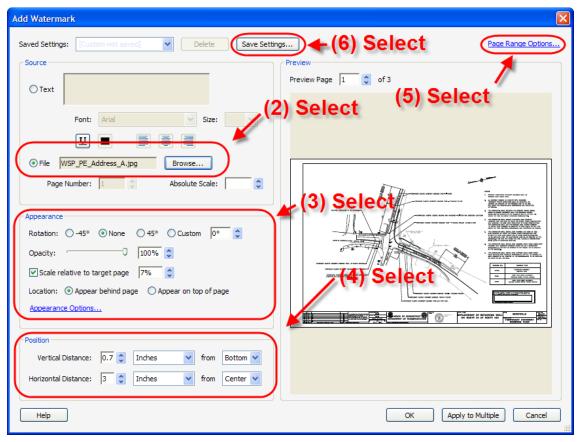## 2.4.1.2   Consultant Designed Contract Plans

Figure 31 Consultant PE Stamp, Company and Address - Watermark Dialog

Figure 32 Consultant Completed Watermark

2.4.2 Bluebeam - Watermarking Plans with Graphic Image of Signature (CTDOT and Consultant Designed)

The engineer of record (Principal Engineers for State Design), for each discipline, shall place a copy of their graphic signature as a watermark on each page of each discipline subset, or working drawing submittal that they are responsible for. There are two ways to apply watermarks using Bluebeam, see below for options 1 and 2.

Watermarking Workflow:

Option 1
1. The watermark in Bluebeam is placed using the stamp function. First go to Markup>Stamp> and then choose your stamp. Your stamp will be in the list after you do the steps in Section 7.3.
2. Next Place the stamp in the border on the first sheet
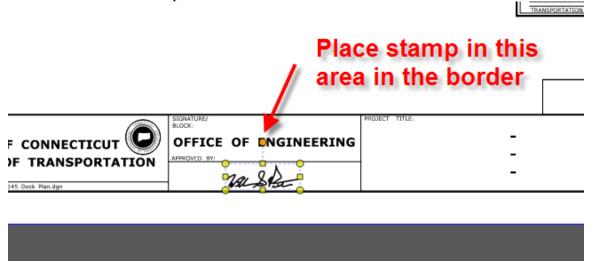
Figure 33 - Placing Watermark

3. Next right click on the stamp and select "Apply to all pages"
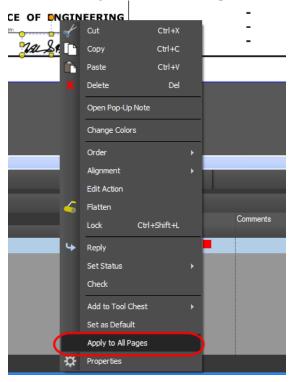
Figure 34 - Placing Watermark on All Pages

If more than one group has to watermark this subset, browse to the pages the other group is responsible for and delete the watermark. Then they can come in a place their watermark on these sheets.

4. In Bluebeam a stamp is considered a comment so after all the watermarks have been placed on the subset, we are going to "flatten" the comments onto the pdf so no one can delete the watermarks. To do this go to Document>Flatten Markups. Use the default settings and click OK.

Option 2
1. The watermark in Bluebeam is placed using the stamp function. First go to Markup>Stamp> and then choose your stamp. Your stamp will be in the list after you do the steps in Section 7.3.
2. Go to *Document>Apply Stamp*

Figure 35 - Applying Stamps
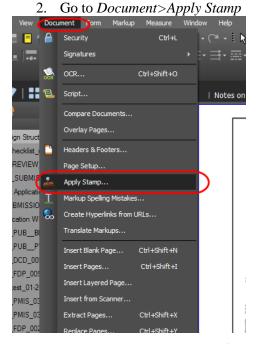
3. Select stamp, input scale and coordinates, and page range as shown below.
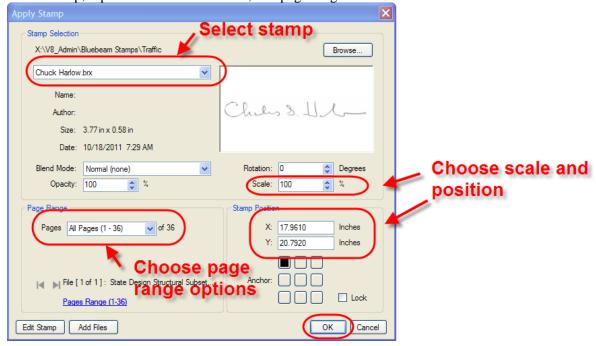

Figure 36 - Applying Stamps

4. In Bluebeam a stamp is considered a comment so after all the watermarks have been placed on the subset, we are going to "flatten" the comments onto the pdf so no one can delete the watermarks. To do this go to Document>Flatten Markups. Use the default settings and click OK.

2.5 Digital Signature Fields

Digital signature fields are form fields created using Adobe Acrobat or Bluebeam, and are used to house the digital signatures. Digital Signature form fields shall be superimposed onto form field place holders. The form field place holders are cells that are placed in the MicroStation file on the title sheet and the subset cover sheets and on any Addendum or Change Order Subset. The figure below shows a CTDOT designed project with the form field place holders (circled) on the title sheet and the discipline subset cover sheet.
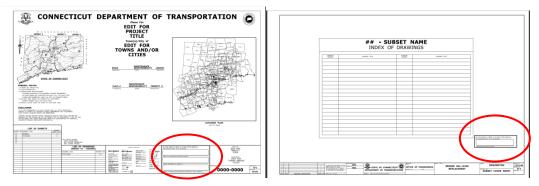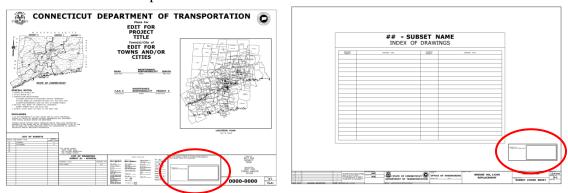
Figure 37 - Digital Signature Fields

The figure below shows a consultant designed project's title sheet and discipline subset cover sheet with their form field place holders.

Place holders determine the location and size of the digital signature form field.

Form field place holding cell library: CT_Digital_Sigs.zip

The digital signature place holder and form fields shall be created on the first page of each discipline subset for each required digital signature.

All signature form fields need to be created for both certifying and signing signatures before any digital signatures is applied to the document.

2.5.1 Adobe - Creating Digital Signature Form Fields

The following work flow explains how to add signature form fields to a PDF document:

1. In Acrobat select forms>Add or Edit Fields

Figure 38 Manually Placed Digital Signature Field

2. When this dialog box appears - Select No.

Figure 39 - Auto Detect Fields

3. Select Add New Field>Digital Signature.
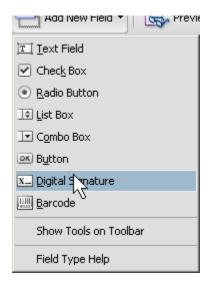
Figure 40 - Placing Digital Signature Field

Place the digital signature form field in top left corner of place holder and adjust bottom right corner using handles.
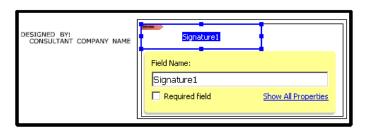
Figure 41 - Placing Digital Signature Field
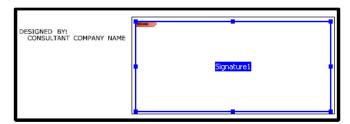
Figure 42 Signature Field placed on Inside Box – Consultant Signature field

Next, click the Close Form Editing button located in the upper right hand corner of view.
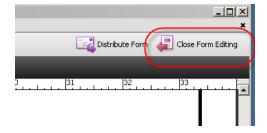
Figure 43 - Close For Editing

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2.5.2 Bluebeam - Creating Digital Signature Form Fields

The following example shows how to place the (3) digital signature form fields on the 01-General title sheet of a CTDOT designed project. For a discipline subset or a consultant designed 01-General title sheet, only one digital signature form field needs to be placed.

1. Go to Document>Signature>Add Signature Field.

Figure 44 - Adding Signature Fields

2. Next place three signature fields in the appropriate location and hit save as shown below:

Figure 45 - Placing Signature Fields

2.6 Applying Digital Signatures

This section describes how to apply digital signatures. Subsets 01-General and 02-Revisions and the Highway and Traffic Standard drawing subsets have unique requirements as described in the following sections.

CTDOT projects shall have their subsets digitally signed after they have been uploaded into projectwise because the Principal Engineer will be looking in projectwise to digitally sign documents.

Discipline subsets designed by a single engineer shall be digitally signed, by the engineer of record, using a single visible certifying signature, applied to the signature form field located on the first page of each subset.

Discipline subsets designed by multiple engineers shall first be digitally signed by the Engineer of Record who is responsible for the most sheets in the subsets. This engineer will apply a visible certi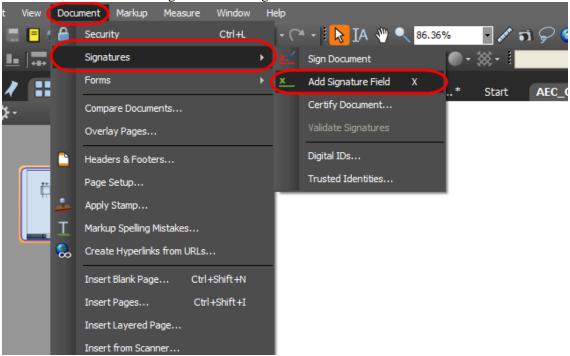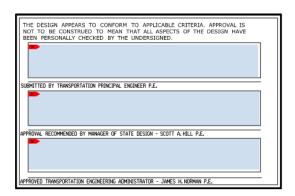fying signature in the top most form field. The next Engineer of Record shall apply their signing signatures in the subsequent form fields. This Engineer shall also include a reason, when applying their digital signatures, listing the pages they are responsible for.

Digital signatures must be applied to digital form fields, previously created. See Section 2.5

2.6.1 Applying Digital Signatures to 01_General Subset (FDP and Addendum Subsets)

CTDOT DESIGNED PROJECTS:
The following procedure applies to both the 01_General subset at FDP and any 01_General_A# subset.

The project title sheet of the 01_General subset shall first be digitally signed by the lead discipline's Principal Engineer, using a **certifying signature**. The Principal Engineer should make sure that all three digital signature form fields (blue boxes in the signature block) areplaced before signing, as these forms cannot be added after the document is digitally certified. After processing has approved the 01_general subset for Advertising, the Manager, and the Transportation Engineering Administrator shall digitally sign the same sheet directly below the principal's signature, using a **signing signature** while the plans are in the **Manager and Engineer Admin. Sign** state.

Processing shall notify the lead designer when the 01-General subset is placed in the **Manager and Engineer Admin. Sign** state. The lead designer shall then coordinate the digital signing by the Manager and Engineering Administrator of the 01_General subset. When both signatures are applied to the plans, the lead designer shall then notify processing that the 01-General subset has been signed.

See Section 2.6.7 Applying Digital Signature Workflows

Note: When digitally signing the 01_General subset all signers shall leave the reason code blank.

The following image shows a typical project title sheet from the 01_General subset that is digitally signed:
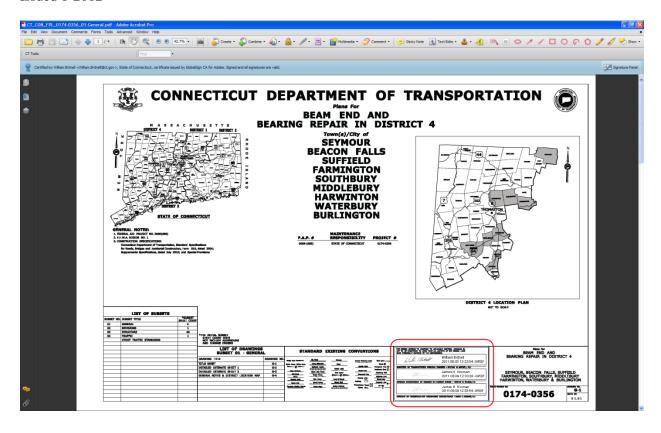
Figure 46 - Title Sheet Digital Signatures

Figure 47 Example: CTDOT 01_General.pdf, Project Title Sheet Digital Signatures

CONSULTANT DESIGNED PROJECTS:

The project title sheet of the 01_General subset shall be digitally signed by the lead consultant, using a certifying signature.

See Section 2.6.7 Applying Digital Signature Workflows

When more than one consultant works on a CTDOT digital project the project manager (prime consultant) shall apply a visible certifying signature to the first page of the 01_General subset. By applying this signature the prime consultant is accepting responsibility for the entire set of digital contract plans. However the individual subsets shall be signed by the corresponding firms.

Note: When applying certifying or signing signatures leave the reason code blank.

2.6.2 Applying a Digital Signatures to 02_Revisions Subset

This section applies to both CTDOT designed projects and Consultant designed projects. The figures contained in this section show a consultant signature, but the workflows are the same.

This subset does not need to be signed at FDP. This subset must be signed when the sheet is filled out for an Addendum or design initiated change order, whichever comes first.

The first index of revision sheet(s) located in the 02_Revisions subset shall be digitally signed by the lead designer, using a certifying signature.

1. The lead designer shall apply a **certifying signature** as described in section 2.6.7 Applying Digital Signature Workflows with the following **EXCEPTION**; **t**he option "No Changes Allowed" must be selected to eliminate unauthorized changes after certifying the document. See the figure below:

Figure 48 Certifying Dialog Box for 02_Revisions.pdf

2.6.3 All Other Discipline Subsets - Single Signature

This section applies to both CTDOT designed projects and Consultant designed projects. The figures contained in this section show a consultant signature, but the workflow is the same.

Each discipline subset shall be digitally signed with a visible certifying signature, by ONLY the responsible design engineer. As shown below.

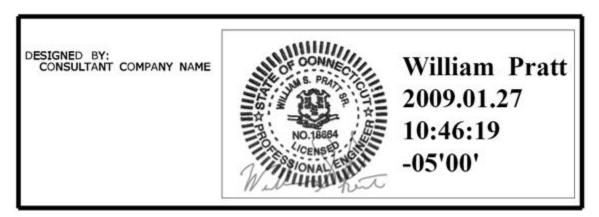See section 2.6.7 Applying Digital Signature Workflows

Figure 49 CTDOT Certified Plan Subset

2.6.4 Standard Drawing Subsets – Single Signature

This section applies to both CTDOT designed projects and Consultant designed projects. The figures contained in this section show a consultant signature, but the workflow is the same.

Only the standard drawing subset index sheets, Highways and Traffic Standard Drawings, need to be digitally signed with a visible signing signature, by ONLY the responsible design engineer. See section 2.6.7 Applying Digital Signature Workflows

2.6.5 All Other Discipline Subsets – Multi-Signatures

This section applies to both CTDOT designed projects and Consultant designed projects. The figures contained in this section show a consultant signature, but the workflow is the same for CTDOT designed projects.

Multiple signatures per a single subset are required where two or more disciplines/firms are responsible for one subset.

The lead designer that is responsible for most of the pages within a discipline subset shall digitally sign the subset using a certifying signature, and leave the reason code blank. See Section 2.6.7 Applying Digital Signature Workflows

Once certified by the subset lead, the remaining designers(s) shall digitally sign the same subset using a signing signature, and complete the reason code with a note stating which pages, contained in this subset, that they are responsible for. See table 2-1 below:
See Section 2.6.7 Applying Digital Signature Workflows

Table 2-1 Reason Codes for Prime and Sub Consultants

Designer	Certify or Sign	Responsible Sheet Numbers	Reason Code
Lead Designer	Certify		
Sub-Designer 1	Sign	03.78 Thru 03.88	I am Signing for Sheet Nos. 03.78 thru 03.88
Sub-Designer 2 – etc.	Sign	03.88 Thru 03.98	I am Signing for Sheet Nos. 03.88 thru 03.98

2.6.6 Working Drawings

Working drawing submittals, plans, calcs, and supplemental documents shall be digitally signed in accordance with section 2.6.7 of this manual.

2.6.7 Applying Digital Signature Workflows

2.6.7.1 Adobe

This section applies to both CTDOT designed projects and Consultant designed projects. The figures contained in this section show a consultant signature, but the workflows are the same.

Visible Digital Signature using a Certifying Signature Workflow:

1. Right Click on the signature field and select *Certify with Visible Signature*.
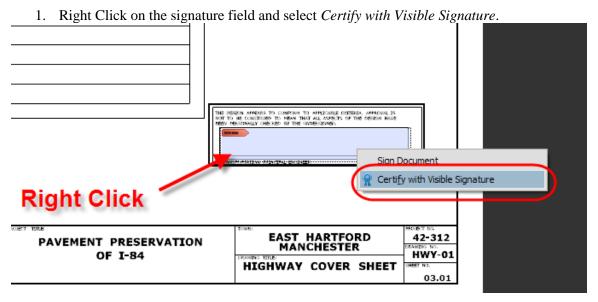
Figure 50 Certify with visible Signature

2. Select appearance and permitted actions as shown below:

Figure 51 Consultant Designed Certify with Visible Signature

3. Next it will ask you to save the document. Make sure to overwrite the existing document.
4. Enter password and click OK. The document will now be digitally signed.
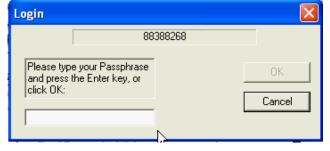
Figure 52 Digital Signature Pass-phrase

5. The document is certified correctly when there is a blue banner displayed on the top of the sheet.

Figure 53 - Certified Correctly

Visible Digital Signature using a Signing Signature Workflow:

1. Right Click on the signature field and select *Sign Document.*
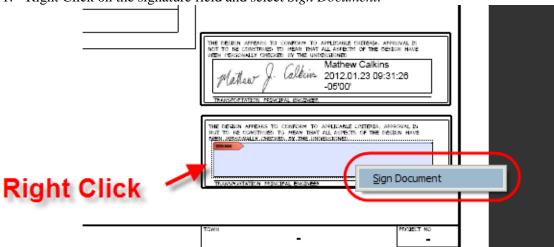
Figure 54 Signing a Document

2. Select appearance and type in a reason following section 2.6.5.
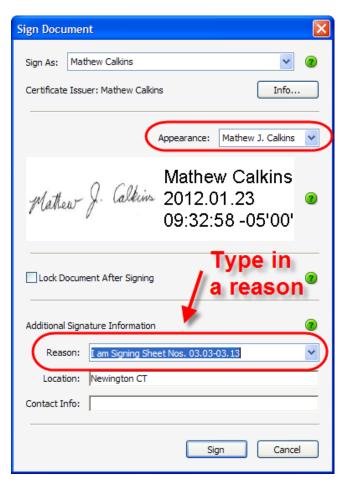
Figure 55 Signing with Reason Code

3. Next it will ask you to save the document. Make sure to overwrite the existing document.
4. Enter password and click OK. The document will now be digitally signed.

2.6.7.2   Bluebeam

This section applies to both CTDOT designed projects and Consultant designed projects. The figures contained in this section show a CTDOT signature, but the workflows are the same. The Consultant designer will only have (1) signature.

Visible Digital Signature using a Certifying Signature Workflow:

1.   Left click on the signature field and then update the settings as shown below:
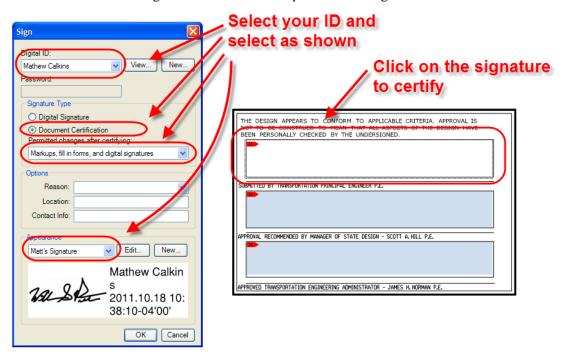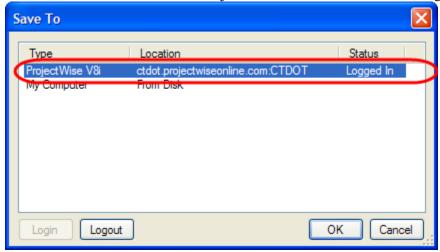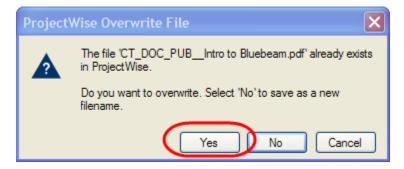
Figure 56 - Certifying Signature Bluebeam

2. Next click "Save To" in Projectwise and select overwrite existing file:

3. Then check the document back into projectwise.

Visible Digital Signature using a Signing Signature Workflow:

Once the prime engineer applies his certifying signature the additional signing signatures can be applied by the sub-consultants as follows:

1. Left click on the signature field and then update the settings as shown below:
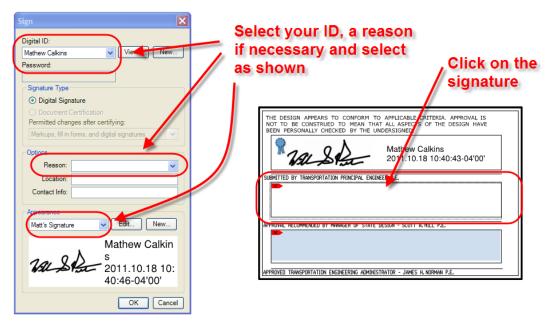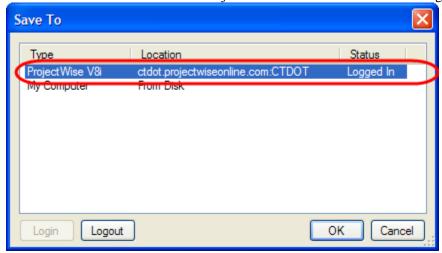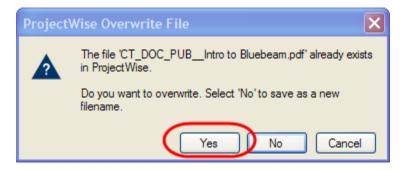
Figure 57 - Signing Signaure Bluebeam

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2. Next click "Save To" in Projectwise and select overwrite existing file:

Save To

Type	Location	Status
ProjectWise V8i	ctdot.projectwiseonline.com:CTDOT	Logged In
My Computer	From Disk	

Login   Logout   OK   Cancel

ProjectWise Overwrite File

? The file 'CT_DOC_PUB__Intro to Bluebeam.pdf' already exists in ProjectWise.

Do you want to overwrite. Select 'No' to save as a new filename.

Yes   No   Cancel

3. Then check the document back into projectwise.

Section 3 Submitting Digital Contract Documents to CTDOT

DIGITAL CONTRACT PLANS:

The CTDOT will consider all digital contract plans submitted for its use "official" contract documents; the engineer of record shall not alter these documents unless explicitly asked to by the CTDOT, and shall only alter what was requested. Consultant engineers submitting changes that were not requested or submitting requested changes outside the processes in this manual may be held liable for damages.

Check the following for completeness prior to submitting digital contract plans to the CTDOT. When submitting preliminary plans, steps 3 and 4 do not need to be performed. All steps shall be completed in accordance with this manual.

1. Project Manager should obtain the number of discipline subsets and notify each discipline of their subset number for sheet numbering. FIO subsets shall be last.
2. All pages of the discipline subsets contain a footer displaying the sheet number.
3. All pages of the discipline subsets display a graphic signature of the engineer of record (watermark).
4. The first sheet of each discipline subset shall be digitally signed by the engineer(s) of record, and shall contain a list of drawings contained in that subset. In addition, the first page of the 01_General subset must contain a list of subsets contained in the project.
5. All sheets contained in any FIO subsets must be labeled, "For Information Only"

DIGITAL CONTRACT SPECIFICATIONS:

The Designer shall submit individual word documents for each specification into Projectwise, see section 3.2.7.   Specifications shall be prepared in accordance with the Departments policies and procedures for Contract Development.   CTDOT Processing shall combine all specifications into (1) PDF document for the contract.

DIGITAL SUPPLEMENTAL CONTRACT DOCUMENTS:
Supplemental contract documents shall include but not limited to the list below:
- Proposal Estimate, with signed checklist.
- Federal Estimate
- Calendar Day Estimate
- Final Design Report
- Categorical Exclusion
- Design Approval Letter
- Environmental Permits
- DBE/SBE Approval with percentage
- Commitment list
- Agreements
- Proprietary Item Approval
- Stand alone Transportation Management Plan Document, taken from the final design report

These documents shall be submitted to CTDOT in PDF format, except the proposal estimate, this shall be in an ".est" format. If these documents do not need to be digitally signed, they may be signed and scanned into PDF, however the minimum page size shall be 8.5" x 11" and the minimum resolution shall be 200 dpi.

3.1 Final Design Plans, Specifications, and Supplemental Document Checklist

The following checklist is made up of two sections. The first section lists the final steps required prior to delivering digital contract plans, specifications, and supplemental documents. The second section lists the project manager responsibilities, after files have been submitted into Projectwise:

Designer Checklist

Check	Task	Section in Manual for Instructions
	1. Complete CAD files for final PDF Publishing	NA
	2. Publish Discipline Subsets to PDF	Section 1.4 step 11
	3. Post Process Discipline Subsets in PDF Software	
	a. Apply Sheet Numbers	Section 1.6.2
	b. Apply Page Labels	Section 1.7
	c. Apply Watermark	Section 2.4
	d. Apply Digital Signatures	Section 2.6
	4. Prepare Standard Subsets	Section 1.4 step 6
	a. Download latest from Web	
	b. Updated index sheets accordingly	
	c. Delete sheets that are not required	
	d. Digitally sign the index sheets	
	5. Upload Discipline Subsets into Projectwise	Section 3.2.3 or 3.2.4
	6. Prepare specifications in word format	Section 1.4 step 18
	7. Combine and Upload specifications in a zip folder into Projectwise	Section 3.2.5
	8. Upload supplemental documents into Projectwise	Section 3.2.6
	9. Notify Liaison Engineer, if a consultant designed project, when documents have been uploaded into Projectwise	
	10. Notify Processing when documents have been uploaded into projectwise after the project manager has completed their check list below	

Project Manager Checklist

Check	Task
	1. Check tasks 1 thru 8 in the designers checklist have been completed correctly

3.2 Project Data Transmission

CTDOT is currently using Bentley's ProjectWise as a data management software for digital projects. Projectwise allows the CTDOT, and authorized business partners to access its data anywhere internet access is available. Projectwise shall be used by all consultant engineers delivering digital contract documents.

3.2.1 ProjectWise

Consultant engineers may use either Projectwise thin client or Projectwise thick client. Thin client is a web based version of Projectwise, which does not require any software installations. All that is required to login to the appropriate webpage is a user name and password supplied by CTDOT. Thin client allows access to the CTDOT dataset anywhere internet access is available. The thick client conversely requires the installation of the Projectwise client software.

In addition to performing all the functions of thin client; thick client has the addition functionality:

- Delta file transfer – Improves speed of downloads
- Managed workspaces – Eliminates the need to install the CTDOT DDE
- Attributing multiple documents at once

Users can get Projectwise Thick Client for free if they have an active license of Microstation. Download Projectwise Client from Bentley using your select ID. Once Projectwise is installed on your computer use this document to connect to the datasource:

<div align="center">Connecting to Datasource Using Thick Client</div>

The following workflow shows how to log in and change your password: Projectwise Log in

Consultant firms are usually given (2) user names that can be used by the whole firm. More than one person can use the user name at a time. It is the firm's responsibility to manage the user name and password in cases where employees leave and work at another firm. This way the employee that leaves cannot use their old companies user name and password.

3.2.2 Projectwise Folders for Contract Documents

This section gives directions on which folder contract documents will be submitted in Projectwise.

100_Contract Plans (PDF) – This folder contains all Contract Plan Discipline Subsets. This includes all Final plans, Addendum plans, Design Initiated Change Order, As builts, and FIO Plans.

110_Contract Specifications (PDF) – This folder contains the Final, Addendum, and Construction Order Requests Contract Specifications packages. The designer will **NOT** submit Final or Addendum specifications into this folder; they shall submit Final Specifications and Addendum contract specifications in word format, into the 240_Contract Development folder. The designer can only submit change order specifications into this folder.

CTDOT finalizes the FDP and Addendum Specification Packages into one PDF file and places the final package into this folder.

120_Contractor Submittals (PDF) – This folder contains all working and shop drawings submittals.

210_Construction – This folder is used by CTDOT construction.

240_Contract Development – Designer shall submit the following supplemental contract documents into this folder:

- All contract specifications and Notice to Contractors (NTC), in word format, both final and addendum specifications
- Proposal Estimate
- Federal Estimate
- Calendar Day Estimate
- Final Design Report
- Categorical Exclusion
- Design Approval Letter
- Environmental Permits
- DBE/SBE Approval with percentage
- Commitment list

- Agreements
- Proprietary Item Approval
- Standalone Transportation Management Plan Document, taken from the final design report

310_Preliminary_Design_Documents – The designer shall submit all preliminary design documents into this folder. This includes plans, specifications, reports, estimates, etc.

Contract documents shall be uploaded into the appropriate folder as described above and attributed in accordance with the following sections.

3.2.3 Uploading Final Contract Plans - ProjectWise (Thin Client)

Once logged into Projectwise the final contract plans shall be submitted as follows: All files must be named according to the, naming conventions in this manual. The following figures give direction on how to upload files into Projectwise:

Figure 58 - Selecting the Appropriate Interface and View
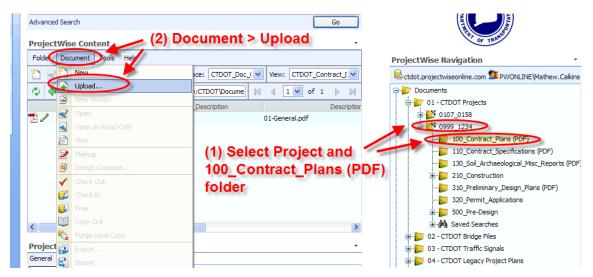
Figure 59 - Uploading Document into Projectwise (Thin Client)
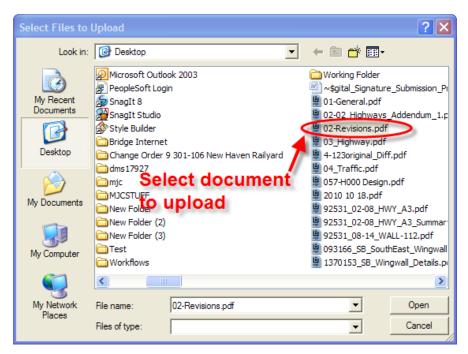
Figure 60 - Selecting File to Upload

Once the document has been uploaded it needs to be attributed and the document and file names need to be changed. Also the document description must be entered explaining what the subset contains. Attributing the documents is important and required because (1) these attributes replace sub-folders and allow for easy searching, and (2) the document and file names become a concatenation of all the attributes, so when the document is exported the file name makes sense.

Follow the figures below for attributing a document within projectwise:
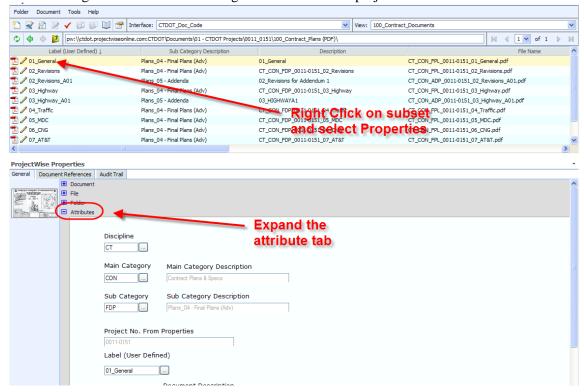
Figure 61 - Assigning Attributes to Documents

Figure 62 - Selecting Attributes

Attributes:

Discipline: CT will be the discipline for Contract Plans.
Main Category: CON = Contract Plans & Specs (PDF)

Sub Category: FDP = Final Design Plans, DCD = Design Completion Data, DCD2= Design Completion Data 2, FPL = Final Plans, ADP = Addendum Plans, ACD = Addendum Completion Data, DCO = Design Initiated Change Order, FIO = For Information Only, STD = Standard Drawings etc.

Label:
- Name of the subset, 01-General for the General subset.
- FDP and DCD submittals shall always have the same label.
- ADP and ACD submittals shall always have the same label (01-General_A##)
- DCO Submittals shall have the label 01-General_C##.
- CTDOT standard drawing shall be "CTDOT_HIGHWAY_STD" and "CTDOT_TRAFFIC_STD".
- For Information Only subsets, FIO must be included in the Label, 11_AT&T_FIO.

Description:
The document description must be entered explaining what the subset contains.

After save is selected notice the document and file names match the CTCode and the document description updates to what was typed in above. You may have to hit refresh to see this change.
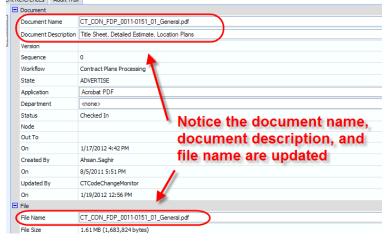
Figure 63 - Document Name, Document Description, and File Name

3.2.4 Uploading Final Contract Plans – Projectwise (Thick Client)

This section gives direction on how to upload and attribute contract documents, for both one document and multiple documents. Once logged into Projectwise the final contract plans shall be submitted as follows: All files must be named according to the, naming conventions in this manual. This workflow may also be used for preliminary plans with the following changes: preliminary plans shall be uploaded into the 310_Preliminary_Design_Documents (PDF) folder and the appropriate attributes must be selected.

3.2.4.1   Uploading and Attributing **Single** Contract Plans

The following figures give direction on how to upload and attribute files one at a time into Projectwise:

1. Select the "CTDOT_Doc_Code" interface as shown below, if the interface box is not shown go to *View>Toolbars* and select interface.
2. Drag and Drop files into the 100_Contract Plans folder in the Project.

Figure 64 - Uploading Into Projectwise (Thick Client)

3. Select the "Advanced Wizard"
4. Click "Next" until you reach the figure below:
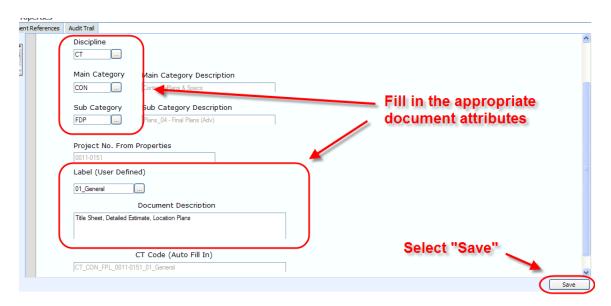5. Fill in the appropriate attributes as shown below:
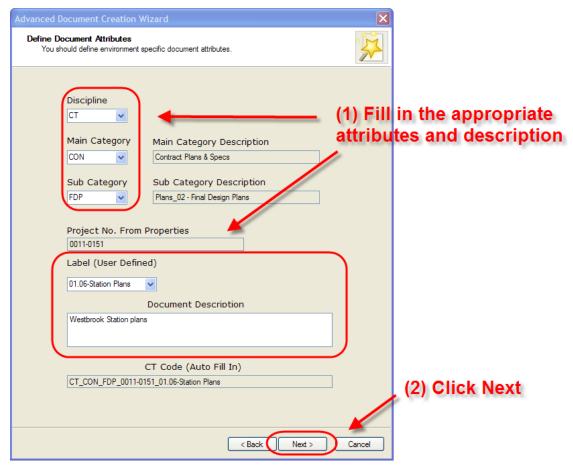
Figure 65 - Attributing (Thick Client)

Attributes:

Discipline: CT will be the discipline for Contract Plans.

Main Category: CON = Contract Plans and Specifications

Sub Category: FDP = Final Design Plans, DCD = Design Completion Data, DCD2= Design Completion Data 2, FPL = Final Plans, ADP = Addendum Plans, DCO = Design Initiated Change Order, FIO = For Information Only, STD = Standard Drawingsetc.

Label:
- Name of the subset, 01-General for the General subset.
- FDP and DCD submittals shall always have the same label.
- ADP and ACD submittals shall always have the same label (01-General_A##)
- DCO Submittals shall have the label 01-General_C##.
- CTDOT standard drawing shall be "CTDOT_HIGHWAY_STD" and "CTDOT_TRAFFIC_STD".
- For Information Only subsets, FIO must be included in the Label, 11_AT&T_FIO.

 Description:
The document description must be entered explaining what the subset contains.

6. On the create document page click next and the document will be uploaded into Projectwise.

3.2.4.2   Uploading and Attributing **Multiple** Contract Plans

The following workflow is an example of attributing multiple Discipline Contract Plan Subsets at once into Projectwise:

1. Select the "CTDOT_Doc_Code" interface as shown below, if the interface box is not shown go to *View>Toolbars* and select interface.
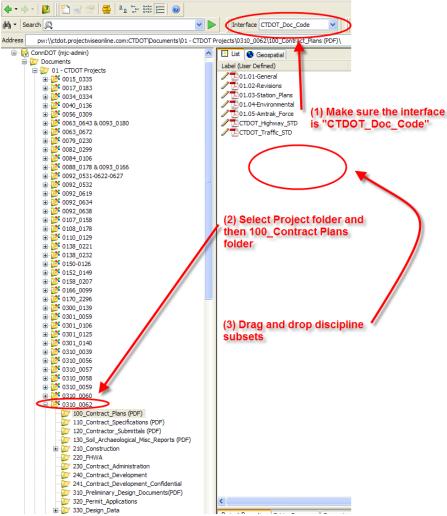2. Drag and Drop multiple files into the 100_Contract Plans folder in the Project.
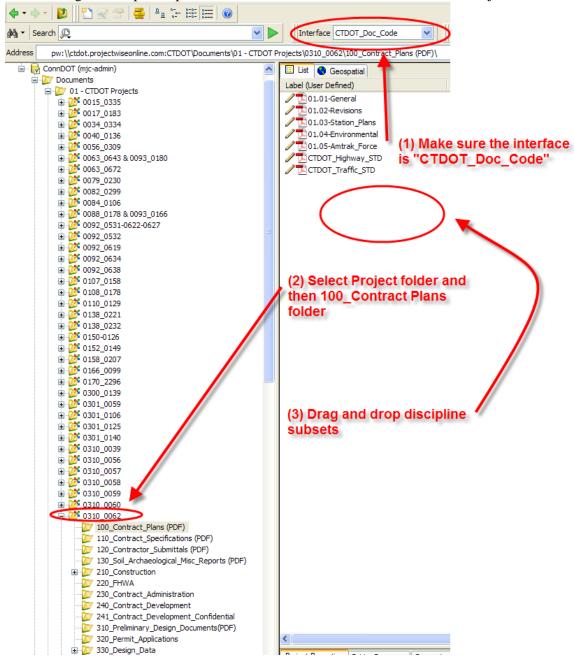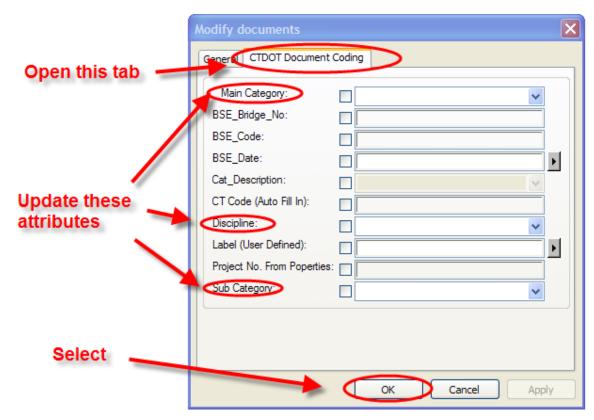
Figure 66 - Uploading Multiple Documents at One Time

3. Choose "No Wizard" and press OK

After the documents are uploaded, the attributes can be applied. For Contract plans the discipline, Main Category and Sub Category will be the same for all subsets so we can bulk attribute these documents. Follow the steps below:

4. Highlight all documents.
5. Right Click and select Modify. Note: This may take a minute for the window to open.

Figure 67 - Modifying Attributes

The subset will now have the Discipline, Main Category and Sub Category attributes applied to them. The label will have to be assigned to each document separately. Follow the figures below:

6.   Right click on a subset and select properties.

7.   The figure below shows how to assign the label attribute.

Figure 68 - Assigning Label Attribute

8.   The document name, file name and document description will automatically update to match the CTCode when a user hits refresh.

3.2.5 Combining and Uploading Contract Specifications and CSI Special Provisions

For projects that are led by a consultant designer, FDP and Addendum Contract specifications and CSI Special Provisions shall be placed in (1) zipped folder. For projects that are led by a CTDOT design unit, FDP and Addendum Contract specifications and CSI Special Provisions shall be placed in individual zipped folders per discipline.

Design Initiated Change Orders specifications shall be placed in (1) PDF document with a "C#" and the date in the right side of the header. An example would be, "Rev. C1 - 01/01/10".

The following shows an example of a consultant designed project, but the process shall also be followed for a CTDOT designed project.

See the figures below for how to zip a folder:
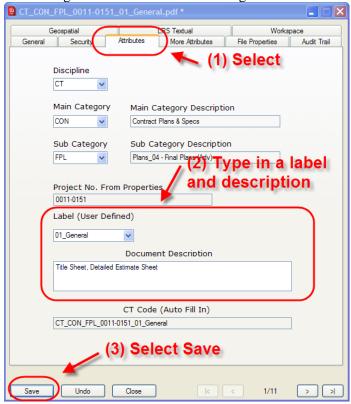1. Place all specifications (word documents) in one folder.
2. Right click on the folder and select "Compress to" option shown below:
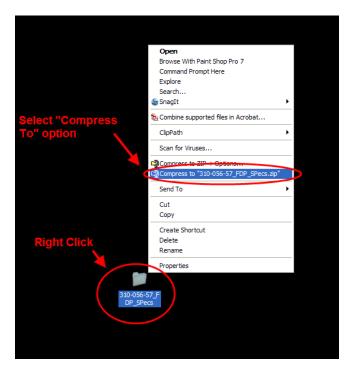
Figure 69 - Compress Spec. Folder

Specifications shall be submitted in a zipped folder for every submittal into Projectwise. Submittals include FDP, revised FDP specifications, Addendum specifications, and revised addendum specifications. Revised FDP and addendum submissions shall only include the revised specifications.

Submitting Contract Specifications

Once logged into Projectwise the final contract specifications shall be submitted as follows:
1. Drag and Drop the zipped specifications folder into the 240_Contract Development Folder or the pdf of the change order specs into the 110_Contract Specifications folder.
2. Use the advanced wizard and select the attributes as follows:
   Discipline = CT
   Main Category= CON

Sub-Category =	FSP	FDP Specs.
	FSR	Revised FDP Specs. or Additional FDP Specs
	ASP	Addendum Specs.
	ASR	Revised Addendum Specs.
	CSP	Design Initiated Change Orders

Label:

Consultant projects
- FDP Specs – Should be "FDP Specs" or "Revised FDP Specs"
- Addendum Specs – Should be "ASP# Specs" or "Revised ASP# Specs"
- Construction Orders – Should be "C# Specs"

CTDOT Designed Projects
- FDP Specs – Should be "Discipline_FDP_Specs" (Discipline = HWY, SB, TR, etc.) Example = "HWY_FDP_Specs." or for a revised spec package "Revised_HWY_FDP_Specs.
- Addendum Specs – Should be same as FDP specs but change to ASP or ASR. Example = "HWY_ASP#_Specs" or "Revised_HWY_ASP#_Specs."
- Construction Orders – Should be "C# Specs"

3. Click next until the document is uploaded. The document name and file name will be automatically updated to match the CTCode when Projectwise is refreshed.

3.2.6 Uploading Supplemental Contract Documents

Supplemental Contract Documents shall be submitted into the 240_Contract Development folder in Projectwise. These documents shall be attributed in accordance with the table below:

Document	Discipline	Main Category	Sub-Category	Label
Digital Project Submittal Checklist	CT	DOC	MDO	CE Design PW Checklist
Proposal Estimate	CT	DAT	EST	Proposal
Proposal Esitmate Checklist	CT	DOC	MDO	Proposal Estimate Checklist
Federal Estimate	CT	DAT	EST	Federal
Calendar Day Estimate	CT	DAT	EST	Calendar Day
Final Design Report	CT	DOC	RPT	Final Design
Categorical Exclusion	CT	DOC	AVL	CAT EX
Design Approval Letter	CT	DOC	AVL	Design AVL Letter
Environmental Permits	CT	DOC	AVL	ENV Permits Name
DBE/SBE Approval with percentage	CT	DOC	AVL	DBE_SBE
Commitment list	CT	DOC	AVL	Commitment List
Agreements	CT	DOC	AGR	Make specific to what type of agreement
Proprietary Item Approval	CT	DOC	AVL	Proprietary Item
Standalone Transportation Management Plan Document, taken from the final design report	CT	DOC	MDO	Trans. Man. Plan

Table 2 - Supplemental Contract Documents

If a supplemental document is revised, a new revised document shall be uploaded into projectwise following the above attribution with the addition of "Revised" being included in the Label.

The document name and file name will automatically update to match the CTCode when Projectwise is refreshed.

3.2.7 CTDOT Contracts Finalizing of Contract Specifications

CTDOT Contracts shall finalize the specifications working in the 110_Contracts_Specifications Folder following this workflow CTDOT Contracts Workflow.

3.2.8 Notification of Submittals

When Contract Plans, Specifications, and supplemental contract documents are submitted into Projectwise the applicable personnel must be notified as follows as applicable:

1. For consultant designed projects, the consultant will notify their Liaison Engineer, who will then notify, by memorandum, processing that contract plans or specifications have been submitted for review.
2. For state design projects, the project manager will notify, by memorandum, processing that contract plans and specifications have been submitted.

3.2.9 Contract Plans Workflow (FDP - Advertise)

Table 3-3 below shows how final digital design plans (FDP) flow from delivery through processing to their final state in advertising.
Processing personnel shall use the following workflow: Projectwise for Processing

Final Design Submission (Subsets)		
Step	**Group**	**Responsibilities of Group**
1	Designer	-Submits FDP subsets into the 100_Contract Plans folder.
2	Processing (CTDOT)	- Change FDP subsets to the Processing State and digitally mark up with comments and save FDP plans. Keep FDP Plans in the Processing State. If there are no comments proceed to step 7. - Create a comment report of these comments and save on your computers desktop. Then upload and attribute this report correctly into the 240_Contract_Development folder.
3	Designer	- Change subsets to reflect comments made by Processing - Submits DCD subsets
4	Processing (CTDOT)	- Change DCD subsets to Processing state - Perform a document compare on the FDP and DCD plans using Bluebeam. - Digitally markup DCD subsets with comments and save. If there are no comments proceed to step 7. - Create a comment report of these comments and save on your computers desktop. Then upload and attribute this report correctly into the 240_Contract_Development folder.
5	Designer	- Change subsets to reflect comments made by Processing on DCD Plans - Submits DCD2 subsets
6	Processing (CTDOT)	- Changes DCD2 subsets to Processing state - Perform a document compare on the DCD and DCD2 plans using Bluebeam. - Digitally markup DCD2 subsets with comments. If there are no comments proceed to step 7. - Create a comment report of these comments and save on your computers desktop. Then upload and attribute this report correctly into the 240_Contract_Development folder.

7	Processing (CTDOT)	- Change the Sub Category Attribute of the approved subset from FDP or DCD(1,2..etc.) plans to FPL plans. STD and FIO plans shall not be change to FPL. - Copy the CTCode and make the document and file name the CTCode. Make sure the file name has a ".pdf" on the end. -If is a CTDOT Design project, change all discipline subsets to the Manager and Engineering Admin. Sign State. Notify Designer they have to have Manager and Engineering Admin sign the title sheet. When the Designer notifies processing these signatures have been applied to the title sheet, change all discipline subsets to the Advertise state. -If is a Consultant Designed Project, change discipline subsets to Advertise State. -Delete all previous versions of plans, FDP, DCD, DCD2, etc. -Keep Comment reports in the 240_Contract_Development folder for records if necessary -Formally notify Contracts when all subset have been approved for Advertising

Table 3-3 Workflow for CTDOT Processing Unit (Contract Drawings)

3.2.10   ProjectWise Project folder Security

Through the use of Workflows and States, Projectwise can provide dynamic securities to a folder or document. Dynamic security allows a different level of security to each document at various phases of its life cycle. This allows a document to reside in one location, in Projectwise, through out the project life cycle.

3.2.11   100_Contract_Plans (PDF) Folder (Dynamic Security)

During the design submittal process the Projectwise workflow, "Contract Plans Processing", shall be applied to this folder. This workflow allows three different states (securities settings) to be applied to documents within this folder. Each state provides a unique security. The CTDOT Contracts Processing Unit shall determine which state a document in this folder shall be in.

The "Contract Plans Processing" workflow contains the following security states:

Document Transfer State – allows either the Consultant or State Designer to upload, read and alter a document.

Processing State – Allows only the processing unit read, write access, allowing them to review the documents in a secluded area. All other users shall have read access.

Manager and Engineering Admin. Sign – Allows the Manager and Engineering Administrator to sign the project Title sheet.

Advertise State - Allows all users file read access, allowing any user to open and read the document.

Once the contract is awarded to the low bidder (Contractor), the Contract Processing Unit shall move all the documents into the a new workflow called "Contract Plans Construction Workflow" which hands control of the documents states to the CTDOT Office of Construction (all offices).

The "Contract Plans Construction" workflow contains the following security states:

Construction State – allows construction to upload, read and alter a document. All other users shall only have file read.

Contractor State – documents in this state allow access to the contractor.

Perform As-Built Stat – allows construction to place as-built information on the plans. All other users shall only have file read.

As-Built Complete – All users will have read only when the documents are put in this state.

3.2.12   Changing the State of a Document

The designer and district construction will be required to change the state of documents for contractor submittals during the review process. To change the state of a document, follow the figure below:
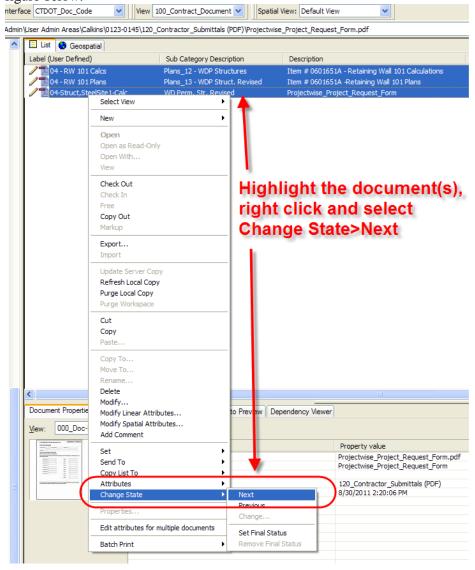

Figure 70 - Changing the State

Click OK when the comment window opens up and the documents state will change.

Figure 71 - State has been Changed

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Section 4 Contract Plan and Specifications Revisions (Addenda, Design Initiated Change Order and As-Builts)

4.1 Addenda

Contract plans that are revised or added due to addenda shall be submitted in digitally signed PDF discipline subsets containing only the changed sheets. The first sheet of each addendum subsets shall be digitally signed in a digital signature place holder, that is placed in Microstation as described in Section 2.0 of this manual, DO NOT ADD a cover sheet. Once digitally signed the addendum subsets shall be submitted, to the CTDOT, using Projectwise as described in Section 3.0 of this manual.

Addenda sheets from different subsets cannot be combined and submitted as one subset, they must be submitted per their respected subsets.

The discipline Addenda subsets shall be attributed as follows, when uploaded into Projectwise (See Section 3.0): The addenda subset shall have the same label as the original final plan subset with the addition of (_A##) added to the end, where the ## equals the addenda number. The sub-category attribute shall be ADP and ACD if the ADP plans are revised. See example below:

PROJECTWISE LABEL

Original Discipline Subset:	**04_Traffic**
Addenda Discipline Subset:	**04_Traffic_A01**
2nd Addenda	**04_Traffic_A02**
6th Addenda	**04_Traffic_A06**

The contract sheets (previously submitted final plans or earlier addenda plans), being revised by addenda shall NOT be modified except; the Engineer of Record shall place an addenda stamp on the affected sheets using Adobe Acrobat. This addenda stamp crosses out the entire sheet with a red X and adds the following note; "THIS SHEET REPLACED BY ADDENDUM NO."Y"; where "Y" equals the addendum number. This stamp is placed over digital signatures therefore; removal of the signatures is not required prior to placing the addenda stamp. For this process see Section 4.4. The stamps shall not be placed on the affected sheets until the addendum is approved for advertising.

WARNING – When placing the stamps, removing the digital signature is not allowed.

The Index of Revisions Sheet(s) located in the 02_Revisions subset(s) shall be managed by the project manager for all addenda, and submitted as described in Section 4.3.1. This subset must be updated for each addendum.

A watermark of the signer's signature; signature only for (CTDOT), or PE Stamp for (Consultants) shall be placed on all added or revised sheets. See Section 2.2

4.1.1 Revised Plans - Addenda

A note shall be placed, directly above the bottom right hand corner of the title block, on the replacement sheets stating "ADDENDUM NO. "Y", where "Y" equals the addenda number.

Sheet numbers for revised plans shall be as follows:
Original Final Plan Sheet;

        Original: 02.25
        Addenda 1:   02.25.A1

Previous Addenda Sheet;

        Original: 02.25.A2
        Addenda 4:   02.25.A4

For revised sheets the drawing numbers shall not be modified.

The revision block, located on the revised sheets, shall be completed as follows: A numbered triangle (revision number) will be placed within the clouded (changed) area and a like numbered triangle will be placed in the revision block, accompanied by a description of the revision itself. The revision number is specific to a particular sheet, and increases in consecutive order per revision and per addenda. If a sheet is changed for the first time under addenda five the revision number is 1 NOT 5. If it is changed again under addenda 7 the revision number becomes 2.

If a sheet requires further revisions by a subsequent addendum, the addendum shall be prepared, as detailed above. The previously revised sheet shall now be stamped using Adobe Acrobat after addendum approval, see Section 4.4.

Note: When preparing an Addendum that will change quantities on a project that includes a "Detailed Estimate Sheet", never revise the "Detailed Estimate Sheet." A "Detailed Estimate Sheet" is never included in an addendum. Also, the "Quantities" box shown on the General Plan sheet for any structure is never to be revised.

4.1.2 New Sheets - Addenda

Changes that require a new sheet(s) to be added to a discipline subset shall be formatted in one of two ways, as follows:

1. If the new sheet does not have to be placed in a specific location within the discipline subset, the new sheet shall be placed last, and numbered sequentially from the last sheet of the discipline subset. The total number of sheets noted on the project plans and discipline subsets stays the same. A note shall be placed on the new sheet stating, "NEW SHEET ADDED BY ADDENDUM NO."Y", where "Y" equals the addendum number. This note shall be located directly above the right hand corner of the title block. The revision block on the added sheet, shall not be filled out.

2. If the designer determines that the new sheet must go in a specific location within the discipline subset, the new sheet number shall be the number of the previous sheet followed by -1.A#, where # is the Addendum Number. For example, if the new sheet must be placed in a discipline subset right after sheet 02.57, the new sheet shall be numbered 02.57-1.A1, if an additional sheet needs to be added, in this case it would be 02.57-2.A1. The total number of sheets noted on the project plans stays the same. A note shall be placed on the new sheet stating, "NEW SHEET ADDED BY ADDENDUM NO."Y", where "Y" equals the addendum number. This note shall be located directly above the right hand corner of the title block.

When adding a new sheet a new drawing number is also required. As with the sheet number the drawing number of the new sheet shall be the drawing number of the previous sheet plus a decimal and the sheet count. For example, if the new drawing must be placed in the project plans right after drawing number S-5, the drawing number shall be S-5-1.

Added sheet numbers, inserted NOT added to the end of Subset, shall be as follows:

Original Final Plan Sheet;

      Original: 04.31
      Addenda 3:   04.31-1.A3

Previous Addenda - Revised Sheet;

      Original: 03.24.A1
      Addenda 4:   03.24-1.A4

Previous Addenda - Revised Sheet;

      Original: 05.14-1.A1
      Addenda 2:   05.14-1.A2

Previous Addenda - Added Sheet;

      Original: 05.14-1.A1
      Addenda 2:   05.14-2.A2

If adding sheets to the end of a subset, the new sheet number shall be a continuation of the previous sheet number plus .A#, where # equals the addenda number.

Original Final Plan Sheet;

      Original Last Sheet: 04.31
      Addenda 3:   04.32.A3

4.1.3 Adding New Subset – Addenda

The new subset shall be submitted by an Addendum and be prepared the same way as an FDP discipline subset, with the addition of an A# in the sheet numbers and a note shall be placed, directly above the right hand corner of the title block, on the sheets stating " NEW SHEET ADDED BY ADDENDUM NO. "Y", where "Y" equals the addenda number. The label attribute on the new subset shall contain an "_A##".   The first sheet of a new subset to the contract will be a subset cover sheet and contain an index of drawings.

4.1.4 Voiding Sheets

Sheets submitted within final design plan subsets and addenda subsets shall NOT be deleted; but shall voided by the engineer of record with an addenda stamp, using Adobe Acrobat or Bluebeam. This addenda stamp crosses out the entire sheet with a red X and adds the following note; "VOIDED BY ADDENDUM NO."Y"; where "Y" equals the addendum number. See Section 4.4 This stamp is placed when the Addendum is approved for advertising.

4.1.5 Addenda Plans Workflow

Table 4-1 Contract Processing Addenda File Workflow for Contract Drawings below shows how addenda subsets are delivered and processed for advertisement.

Table 4-1 Contract Processing Addenda File Workflow for Contract Drawings

Step	Group	Responsibilities of Group
		Addendum Plans
1	Designer	-Submits ADP subsets into the 100_Contract Plans folder.
2	Processing (CTDOT)	- Changes document to the Processing State and digitally mark up with comments and save. Keep ADP Plans in the Processing State. If there are no comments proceed to step 7. - Create a comment report of these comments and save on your computers desktop. Then upload and attribute this report correctly into the 240_Contract_Development folder. Notify the designer when this is finished.
3	Designer	- Change subsets to reflect comments made by Processing - Submits ACD Subsets
4	Processing (CTDOT)	- Changes ACD subsets to Processing state - Perform a document compare on the ADP and ACD plans using Bluebeam. - Digitally markup ACD subsets with comments. If there are no comments proceed to step 7. - Create a comment report of these comments and save on your computers desktop. Then upload and attribute this report correctly into the 240_Contract_Development folder. Notify the designer when this is finished.
5	Designer	- Change subsets to reflect comments made by Processing on ACD Plans - Submits ACD2 Subsets.
6	Processing (CTDOT)	- Change ACD2 Subsets to Processing state - Perform a document compare on the ACD and ACD2 plans using Bluebeam. - Digitally markup ACD2 subsets with comments. If there are no comments proceed to step 7. - Create a comment report of these comments and save on your computers desktop. Then upload and attribute this report correctly into the 240_Contract_Development folder. Notify the designer when this is finished.
7	Processing (CTDOT)	- Change the Sub Category Attribute of the approved subset from ACD(1,2..etc.) plans to ADP plans - Copy the CTCode and make the document and file name the CTCode. Make sure the file name has a ".pdf" on the end. - Change discipline subsets to the Advertise State. -Delete all previous versions of plans, ADP, ACD, ACD2, etc. -Keep Comment reports in 240_Contract_Development folder for records if necessary - Formally notify Contracts when all subset have been approved for Advertising - Notify the designer that the plans are going to be advertised and they can put the addenda stamps on the affected sheets.

4.1.6 Addenda Specifications

Contract Specifications that are revised or added due to addenda shall be submitted digitally in accordance with section 3.2.5.

4.2 Design Initiated Change Order (DCO)

Design Initiated Change Orders (DCO) are construction order requests in which the designer alters the original contract plans, by revisions to existing sheets, the addition of a new sheet, or the deletion of an existing sheet, and submits these changes to the Office of Construction for their use.

The creation and management of DCO's shall be as specified in this section.

Contract plans changed or added due to DCO's shall be submitted in a digitally signed PDF discipline subsets containing only the added or changed sheets. The first sheet of each DCO subset shall be digitally signed in a digital signature place holder, that is placed in Microstation as described in Section 2.0 of this manual, DO NOT ADD a cover sheet. Once digitally signed the DCO subsets shall be submitted, to the CTDOT, using Projectwise as described in Section 3.0 of this manual.

DCO sheets from different subsets cannot be combined and submitted as one subset.

The discipline DCO subsets shall be coded as follows, when uploaded into Projectwise (See Section 3.0): The DCO subset shall have the same name as the original final plan subset with the addition of (_C###) added to the end, where the ### equals the DCO number. The sub-category attribute shall be DCO (Design Initiated Change Order) See Examples below:

	PROJECTWISE LABEL
Original Discipline Subset:	**04_Traffic**
DCO Discipline Subset:	**04_Traffic_C001**
6th DCO	**04_Traffic_C006**
Original Addenda Subset:	**04_Traffic_A03**
DCO Discipline Subset:	**04_Traffic_C001**
3rd DCO	**04_Traffic_C003**

The contract sheets (previously submitted final plans, addenda plans, or DCO plans), being revised by DCO shall NOT be modified except; the Engineer of record shall place a DCO stamp on the revised sheets using Adobe Acrobat. This digital DCO stamp crosses out the entire sheet with a red X and adds the following note; "THIS SHEET REPLACED BY DESIGN CONSTRUCTION ORDER REQUEST NO."Y" –mm/dd/yy; where "Y" equals the addendum number. This stamp is placed over digital signatures therefore; removal of the signatures is not required prior to placing stamp. For this process see Section 4.4 stamps will placed after DCO is submitted to Construction.

WARNING – When placing the stamps, removing the digital signature is not allowed.

The Index of Revisions Sheet(s) located in the 02_Revisions subset shall be updated by the project manager for all DCO, and submitted as described in Section 4.3.2.

A watermark of the signer's signature, signature only for (CTDOT), or PE Stamp for (Consultants) shall be placed on all DCO sheets. See Section 2.2

4.2.1 Revised Sheets – DCO

A note shall be placed, directly above the right hand corner of the title block, on the replacement sheets stating "DESIGN INITIATED CHANGE ORDER NO. "Y" – mm/dd/yy, where "Y" equals the Design Initiated Change Order number.

Sheet numbers for revised plans shall be as follows:

Original Final Plan Sheet;

   Original: 02.25
   DCO 1:   02.25.C1

Previous Addenda Sheet;

   Original: 02.25.A2
   DCO 4:   02.25.C4

Previous DCOR Sheet;

   Original: 02.25.C2
   DCO 4:   02.25.C4

Previous DCOR Sheet;

   Original: 02.25.C2
   DCO 4:   02.25.C10

Drawing numbers shall not be modified on revised sheets.

Approval blocks on all new sheets shall be watermarked with a signature (CTDOT) or PE Stamp (Consultant) and the first sheet of the subset shall be digitally signed in accordance with Section 2 of this document.

4.2.2 New Sheets - DCO

Changes that require new sheet(s) to be added to a discipline subset shall be formatted in one of two ways, as follows:

1. If the new sheet does not have to be placed in a specific location within a discipline subset, the new sheet shall be numbered sequentially from the last sheet of the discipline subset. The total number of sheets noted on the project plans and discipline subsets stays the same. A note shall be placed on the new sheet stating, "NEW SHEET ADDED BY DESIGN INITIATED CHANGE ORDER NO. Y – mm/dd/yy" where "mm/dd/yy" equals the month, day and year the change order request was submitted. This note shall be located directly above the title block.

2. If the designer determines that the new sheet belongs in a specific location within a discipline subset, the new sheet number shall be the number of the sheet it most closely relates to followed by (-1.C#). For example, if the new drawing should reside in the 03_Highway discipline subset right after sheet 03.57, the new sheet shall be numbered 03.57-1.C#.

3. The total number of sheets noted on the project plans stays the same. A note shall be placed on the new sheet stating, "NEW SHEET ADDED BY DESIGN INITIATED CHANGE ORDER NO. Y – mm/dd/yy" where "mm/dd/yy" equals the month, day and

year the change order request was submitted. This note shall be located directly above the bottom right hand corner of the title block.

When adding a new sheet a new drawing number is also required. The drawing number of the new sheet shall be the drawing number of the sheet it most closely relates to followed by (-#). For example, if the new drawing must be placed in the project plans right after drawing number HWY-10, the drawing number shall be HWY-10-1.

Added sheet numbers, to a specific location, shall be as follows:

Original Final Plan Sheet;

        Original: 04.31
        DCO 3:   04.31-1.C3

Previous Addenda - Revised Sheet;

        Original: 03.24.A1   Original: 02.45.C1
        DCO 4:   03.24-1.C4   DCO 2:   02.45.C2

Previous Addenda - Added Sheet;

        Original: 05.14-1A1   Original: 02.45-1.C1
        DCO 2:   05.14-2.C2   DCO 2:   02.45-2.C2

If adding sheets to the end of a subset, the new sheet number shall be a continuation of the previous sheet number plus C#., where # equals the Design Construction Order Request number.

Original Final Sheet

        Original Last Sheet: 04.35
        DCO 4:   04.36.C4

4.2.3 New Subset – DCO

The new subset shall be submitted by DCO and be prepared the same way as an FDP discipline subset, with the addition of an C# in the sheet numbers and a note shall be placed, directly above the right hand corner of the title block, on the replacement sheets stating "NEW SHEET ADDED BY DESIGN INITIATED CHANGE ORDER NO. "Y" – mm/dd/yy, where "Y" equals the Design Initiated Change Order number. The label attribute shall contain "_C##". The first sheet of a new subset to the contract will be a subset cover sheet and contain an index of drawings.

4.2.4 Voided Sheets

Sheets submitted within final design plan subsets, addenda subsets, or design construction order request subsets shall NOT be deleted; but shall be voided by the engineer of record, with a DCO stamp using Adobe Acrobat or Bluebeam. This DCO stamp crosses out the entire sheet with a red X and adds the following note; "VOIDED BY DESIGN INTIATED CHANGE ORDER NO. Y – mm/dd/yy; where "Y" equals the addendum number. See Section 4.4 This stamp is placed when the Addendum is submitted to Processing.

4.2.5 DCO Specifications

The Designer shall submit DCO specifications into Projectwise following section 3.2.5.

Specifications shall be created in accordance with the Departments policies and procedures for Contract Development. The Engineer shall also combine all specifications into (1) PDF document and upload that into the 110_Contract Specifications (PDF) folder.

4.3 02_Revisions Subset

Each project has a 02_Revisions subset and this subset only contains the, "Index of Revisions Sheet(s)". These revision sheets are used for tracking all sheet changes due to addenda (ADP) and Design Initiated Change Order (DCO) with respect to the entire project. The 02_Revisions subset starts out as a place holder in the project. The figure below is an example of a blank 02_Revisions subset:
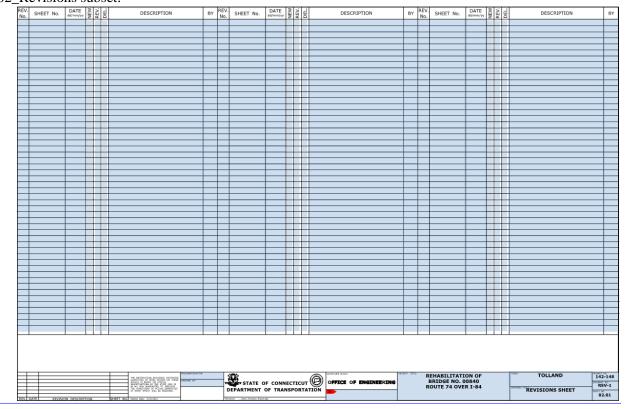

Figure 72 - Blank 02-Revisions Subset

ADDENDA:

When the project requires an Addendum, the Project Designer must record these changes on a **NEW** 02_Revisions_A## subset, where A## equals the Addendum ##. New 02-Revisions subsets shall contain all previous Addendum information. For example, Addendum 4 shall include all changes made from Addendums 1, 2, 3 and 4.

DESIGN INITIATED CHANGE ORDER:

When a project requires a Design Initiated Change Order (DCO), the following process shall be followed:

For the first DCO, the Project Designer will prepare a **NEW** 02_Revisions_DCO subset.   For each subsequent DCO, the Project Designer will **AMMEND** the previous 02_Revisions_DCO subset. 02_Revisions_DCO subsets shall always contain all previous Addendum information and the new DCO information. For example, when DCO #1 is prepared, the 02_Revision_DCO subset shall include all Addendum information as well as the changes made for DCO #1.

The following figures are an example of the "Index of Revisions Sheet(s)" completed up to Addendum #3:

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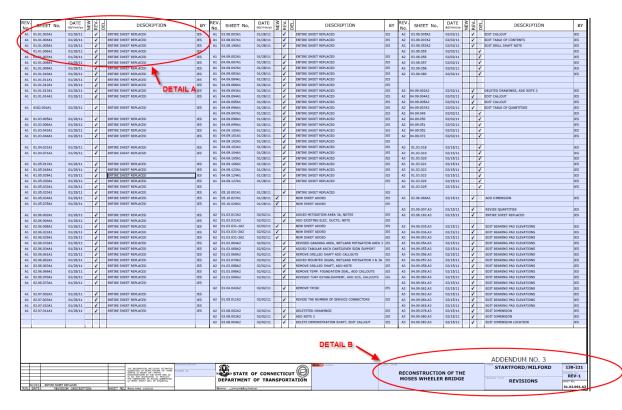
Figure 73 - Index of Revisions Sheet

Detail A from figure 1 shows the information typed in for a change to the contract plans. The project designer inputs the Addendum or DCO number, the sheet number, the date, a description of the change, the person who made the change, and checks the appropriate box for: new sheet added, revised sheet or deleted sheet.
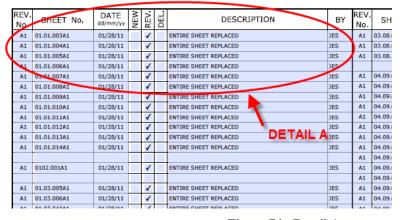

Figure 74 - Detail A

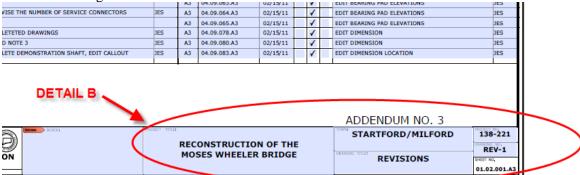Detail B from figure 1 shows the title block information.

Figure 75 - Detail B

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4.3.1 02_Revisions Subset Workflow - Addenda

Each time an addendum is issued, the "Index of Revisions sheet" must be updated by the Project Designer as follows:

1. The user will export/download the latest 02_Revisions subset out of Projectwise to their local computer.

2. With your digital signature USB key inserted within the USB, right click on the Signature Box and select Clear Signature as shown below:
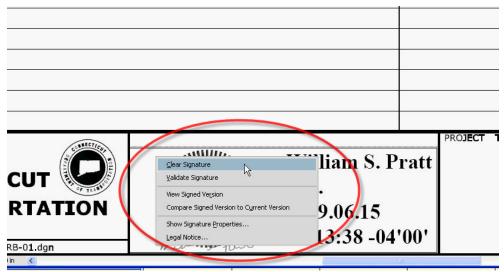
Figure 76 Clearing the Digital Signature

3. Enter the information into form fields as described in section 4.3.4.

4. Add note "ADDENDUM NO. Y" in the bottom right hand corner of the sheet above the title block, where Y = the Addendum number.

5. Add new revision sheet each time previous sheet becomes full. Add note "NEW SHEET ADDED BY ADDENDUM NO. "Y", where "Y" equals the addenda number. Follow section 4.3.3 of this document.

6. When finished sign using a certifying signature as shown in Section 2.6.2

7. Upload the document into Projectwise.

8. Attribute the subset: Main Category = CON, Sub-Category = ADP, Label = 02_Revisions_A##

9. Make the Document name and File name match the CTCode attribute. Make sure the file name has a ".pdf" at the end.

10. Make the document description 02_Revisions_A#.

11. Place addendum stamp on original 02_Revisions subset in accordance with section 4.4.

4.3.2 02_Revisions Subset Workflow - DCO

Preparing the 02_Revision subset for the first DCO the designer shall follow the workflow for preparing the addendum 02_Revision subset, see section 4.3.1 amended as follows:

Step 4 becomes: Add note "DESIGN INITIATED CHANGE ORDER NO. Y – mm/dd/yy" in the bottom right hand corner.
Step 8 becomes: attribute the subset: Main Category = CON, Sub-Category = DCO, Label = 02_Revisions_DCO.
Step 10 becomes: Make the document description 02_Revisions_DCO.
Step 11 becomes: Place the DCO stamp on the latest Addendum subset in accordance with section 4.4.

The following workflow shall be used by the Project Manager for **AMMENDING** the 02_Revisions_DCO subset. In this workflow the user edits the subset in Projectwise, they do not have to export the document out:

1. Check out the 02_Revisions_DCO subset from Projectwise.

2. Follow steps 2 through 7 from section 4.3.1 amended as follows:

    a. In step 4 add note "DESIGN INITIATED CHANGE ORDER NO. Y - mm/dd/yy"
    b. In step 5 add note "NEW SHEET ADDED BY DESIGN INITIATED CHANGE ORDER NO. Y – mm/dd/yy"
    c. In step 7 "Check In" the document into Projectwise
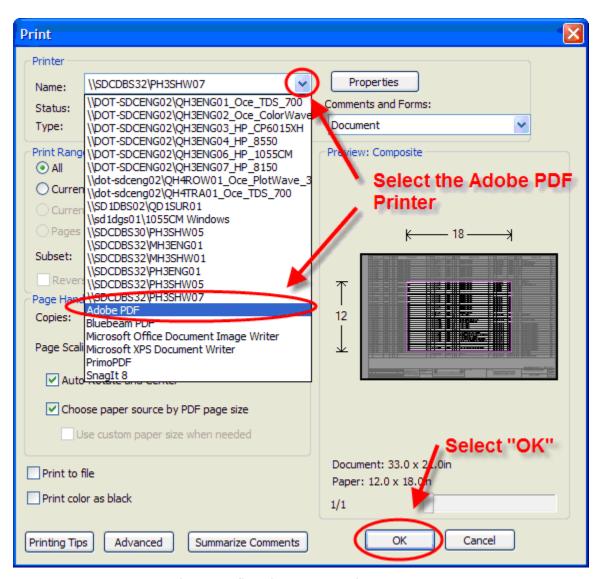
4.3.3 Adding a New Revisions Sheet to the 02_Revisions Subset

4.3.3.1   Adobe Adding New Revisions Sheet

This section shall be used when a new sheet is to be added to the 02_Revisions Subset (Addendum and DCO)

See Section 1.4 step 16 for link to "Index of Revisions Sheet"

1. In the open Index of Revisions sheet select, File>Print.
2. Choose the Adobe PDF printer and select OK as shown below:

Figure 77 - Selecting the PDF Printer

3. Select OK and save this new document on your computer. Include "(Cleared Forms)" in the file name as shown below.
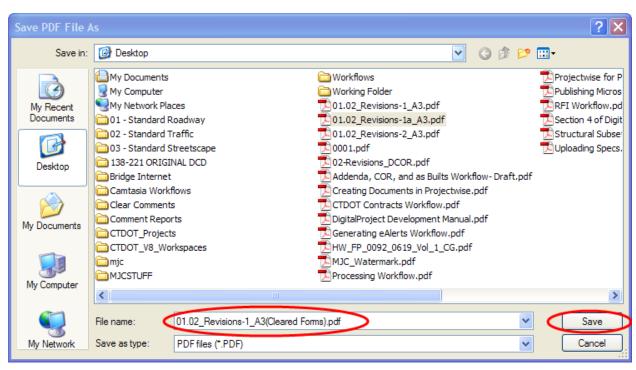
Figure 78 - Saving Cleared Form Fields Document

Document will open automatically and will no longer have active form fields.
4. Close the cleared form document once inspected for lack of form fields.

The cleared form document must now be inserted into the original document that contains the active form fields. See step 5.

5. Go to Document > Insert Pages>From File. Browse to file, select correct file and click select. Follow the figure below:
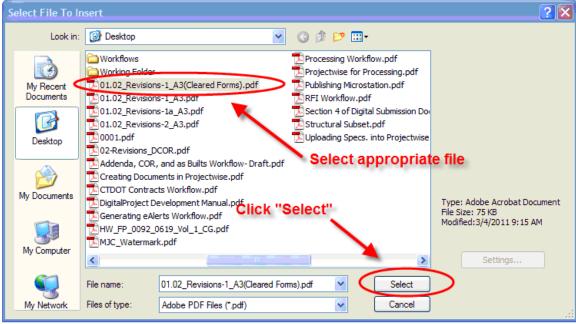
Figure 79 - Inserting a Page

The following dialog opens up.
6. Ensure location is set to "before" and click OK as shown below
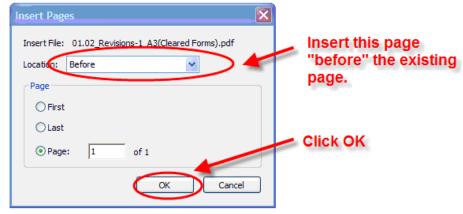
Figure 80 - Inserting a Page Before

7. Next clear the information in the form fields located on the now second sheet. See figure below:
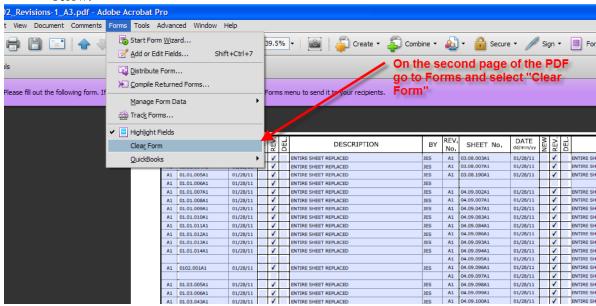
Figure 81 - Clearing Forms

8. After forms are cleared. Record the new addendum/DCO information.
9. Fill in title block information by copying the information on page 1 of this pdf document and paste it in the forms on page two.
10. Clear the signature field on the second sheet of this document and create a signature field on the first sheet of this document.
11. After all the Addendum/DCO information is inserted, place the water mark on page two of the document and update the page number.
12. Follow section 4.3.1 or section 4.3.2 where applicable to complete the 02_Revisions Subset.

4.3.3.2 Bluebeam – Adding New Revisions Sheet

1. Download a new "Index of Revisions sheet" from Section 1.4 step 16.
2. Insert the new sheet into the existing 02-Revisions subset. Update the title block information and update the sheet accordingly.

4.3.4 Filling Out Revision Index Sheet

To fill out a form field simply click on the box and begin typing. The first column is the Addendum or Design Initiated Change Order. The second column is the revised or new sheet number. The third column is the date, followed by a brief description that is similar to the description on the actual sheet being revised. Finally click in the appropriate check box per row to describe the action taken, new sheet, revised sheet, or sheet deleted. Note: The Engineer is not required to input changes numerically by Sheet No. If another changed sheet is added to an Addendum in the eleventh hour, it can be placed at the bottom of the list on the "Index of Revisions Subset".
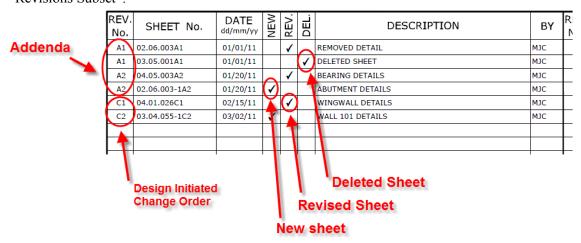
Figure 82 Modifying the "Index of Revisions Subset"

4.4 Placing Stamps on Affected Sheets – Revised, or Deleted Sheets

A digital stamp that crosses out the entire sheet shall be place on digital contract sheets that are affected by Addenda or Design Initiated Change Order. The stamp shall be placed using Adobe Acrobat Custom Stamps tools or Bluebeam Stamp tools. In addition to crossing out the sheet this stamp includes an area for the note. The note shall describe the action responsible for the revision. See section 7.3 for PDF stamps.

WARNING – When placing the stamps, removing the digital signature is not allowed.

Table 4-1 below lists the notes that shall be used for addenda, construction order requests, and as built notes. These notes should be used in conjunction with the cross-out stamp.

Table 4-1 Modifications to Existing Sheets by Addendum, Construction Orders and As-Builts

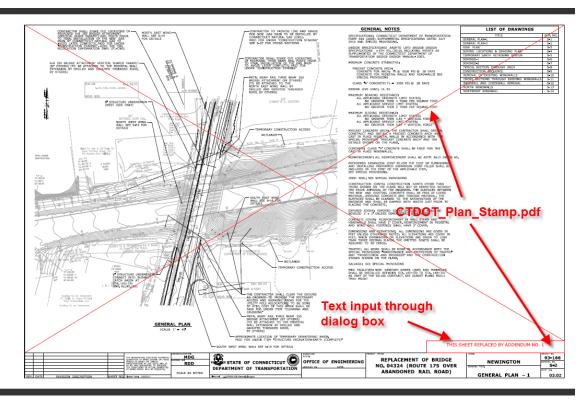| Addendum Notes	Description of Use
THIS SHEET REPLACED BY ADDENDUM NO. Y	The revised sheet is considered to replace, in total, the original sheet.
VOIDED BY ADDENDUM NO. Y	Sheet is voided by Addendum.
Design Initiated Change Order Notes	**Description of Use**
THIS SHEET REPLACED BY DESIGN INITIATED CHANGE ORDER NO. Y – mm/dd/yy	Used for revisions to existing sheets. Changes must be noted only on the revised sheet.
VOIDED BY DESIGN INITIATED CHANGE ORDER NO. Y – mm/dd/yy	Use this for voiding of existing sheets.

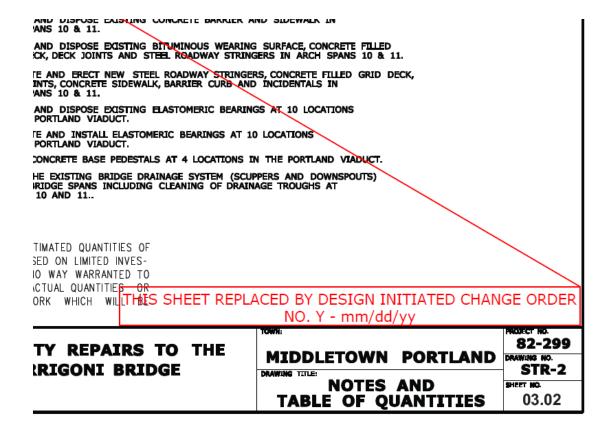**Figure 83 Typical Sheet Replaced by Addendum 1**

Figure 84 Typical Sheet Replaced by DCO

4.5 As-Builts

As stated in CTDOT's Construction Manual chapter 1-313 "Final Revisions of Plans and Cross Sections (As-Builts)", it is the responsibility of either the Contracting Engineers (Consultant Inspection) or State Forces (Office of Construction) to perform final revisions of Contract Plans (As-Builts). Chapter 1-313 shall be followed amended by the following:

The PDF Contract Plans (Including all Addenda and Construction Orders) shall be accessed using Projectwise and the As-Built information placed directly on the Contract PDF files. The Adobe Acrobat or Bluebeam Commenting Tools shall be used to perform this procedure. Also appropriate stamp(s) must be placed on all sheets. Download the stamp files from section 7.3.

When a new sheet is required to accommodate an As-Built, the procedure shall follow the same procedures as section 4.2 Design Initiated Change Orders except the notes would state for As-Built purposes. See Table 4-1 Modifications to Existing Sheets by Addendum, Construction Orders and As-Builts.

The following workflow outlines the procedures for placing As-Builts on digitally signed plans: As-Built Workflow

Section 5   Usability of Digital Projects

This section contains information about viewing digital contract documents.

5.1 Structure of Digital Plans

Final Design Plans, Addendums, and Design Initiated Change Orders
The contract plans are split up into discipline subsets, which are multiple sheet PDF documents digitally signed by the Designer. Addendums and Change Orders are also submitted as discipline subset, with only the changed sheets. For example, an Addendum that affects the 03-Bridge Subset will require the submission of a 03-Bridge_A1 subset.

Digital Plans are located in the 100_Contract_Plans folder in Projectwise. Below is an example of a project's discipline subsets in Projectwise:

ProjectWise_Admin\User Admin Areas\Calkins\0123-0145\100_Contract_Plans (PDF)\

Label (User Defined)	Sub Category Description	Description
01-General	Plans_04 - Final Plans (Adv)	01_General
02-Revisions	Plans_04 - Final Plans (Adv)	02_Revisions
02-Revisions_A1	Plans_05 - Addenda	02-Revisions_A1
02-Revisions_A2	Plans_05 - Addenda	02-Revisions_A2
02-Revisions_DIC	Plans_07 - Design Initiated CO	02-Revisions_Design Initiated Change Orders
03-Bridge	Plans_04 - Final Plans (Adv)	03_Bridge
03-Bridge_A1	Plans_05 - Addenda	03.Structures_A1
03-Bridge_C1	Plans_07 - Design Initiated CO	03-Bridge_C1
04-IMS	Plans_04 - Final Plans (Adv)	04_IMS
04-IMS_A2	Plans_05 - Addenda	04-IMS_A2
05-Traffic	Plans_02 - Final Design Plans	05-Traffic
05-Traffic_C2	Plans_07 - Design Initiated CO	05-Traffic_C2
06-Utility plans	Plans_02 - Final Design Plans	06-Utility plans
CTDOT_Highway_STD	Plans_10 - Standard Drawings	CTDOT_Highway_STD
CTDOT_Traffic_STD	Plans_10 - Standard Drawings	CTDOT_Traffic_STD

Figure 85 - Discipline Subsets in Projectwise

The figure above shows a project that includes multiple Addendums and Change Orders.

As-Built's
As-built's will be placed directly on the PDF Subsets using Adobe. This will be done by the inspector after the project has been completed.

5.2 Functionality of PDF Digital Plans

The PDF digital plans have the following functions when the digital contract plans are created in accordance with this manual:

Turn levels on and off
Search for all text on the documents.
PDF plans are measurable

5.2.1 Digital Plans Levels

The plans have the ability to have their levels turned off and on. This can allow for easier viewing of the contract sheets.   See below for turning levels on and off:
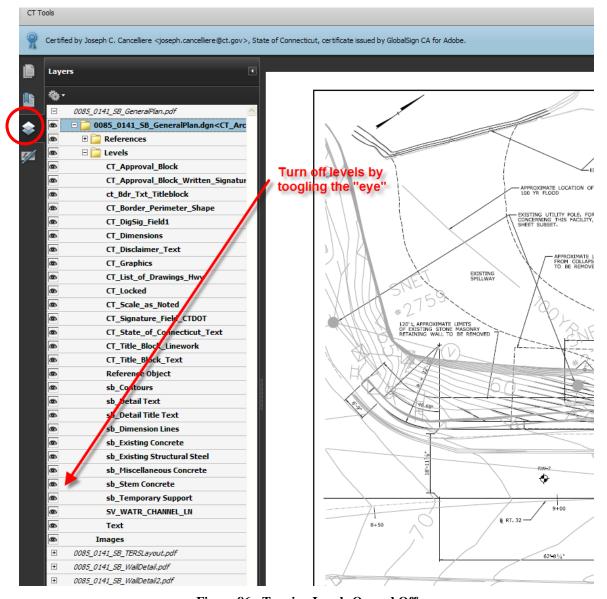

Figure 86 - Turning Levels On and Off

5.2.2 Searching Digital Plans

The plans can be searched for any text located on them. This can be useful if searching for a certain pay item.

See below for searching the PDF Plans for text.
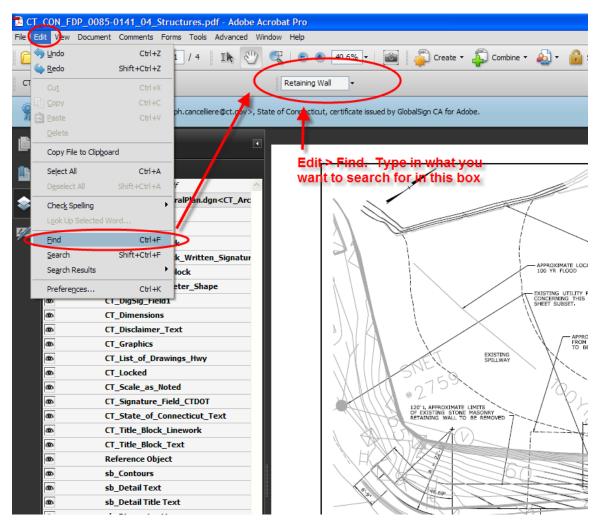
Figure 87 - Searching for Text in PDF Plans

5.2.3 Measuring on the Digital Plans

The plans have the ability to be measured in PDF. This is helpful because a paper set does not need to be created for on desk measuring.

See below for measuring in PDF.
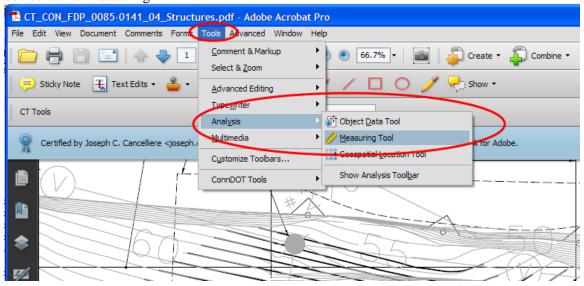
Figure 88 - Measuring Tool in Adobe
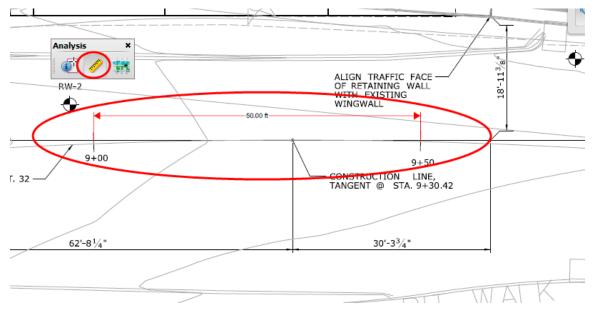
Figure 89 - Measuring Tool in Adobe

5.3 Digital Specification Package

The FDP specification package will be one PDF document and located in the 110_Contract_Specifications folder. This package includes all specifications, Notice to Contractors, Wage information, etc.

The Addendum specifications prepared in the same way as the FDP specification package and will also be located in the 110_Contract Specifications folder.

The Design Initiated Change Order specifications will be contained in one PDF document located in the 110_Contract Specifications folder when they are released to the Contractor.

Some useful features on the digital specification package are:
- Search for any text in the document, see section 5.2.2.
- Bookmarks for each section in the specification package
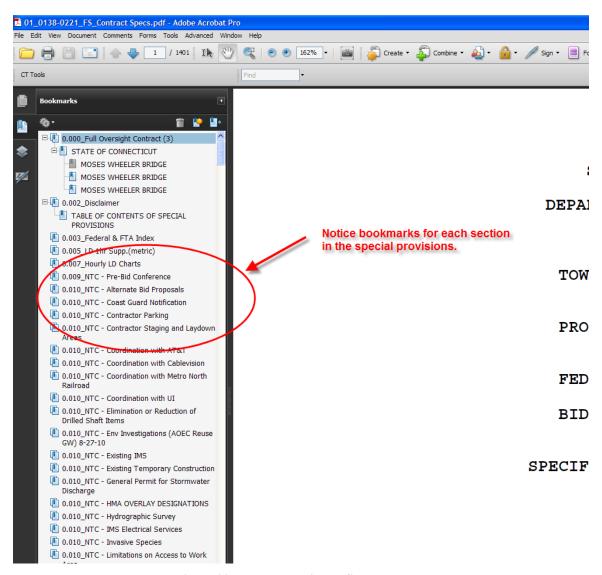
Figure 90 - Bookmarks in the Spec. Package

Section 6   Contractor Submittals

This section is in development:

The following link is the Contractor Submittal workflow:

Section 7   Digital Review and Commenting

This section is in development.

This section details the procedure for digital review and commenting on pdf documents, this includes preliminary design, working drawing, shop drawing reviews, and other contractor submittals. Also included in this section are the stamps that are applied to working drawing and shop drawing.
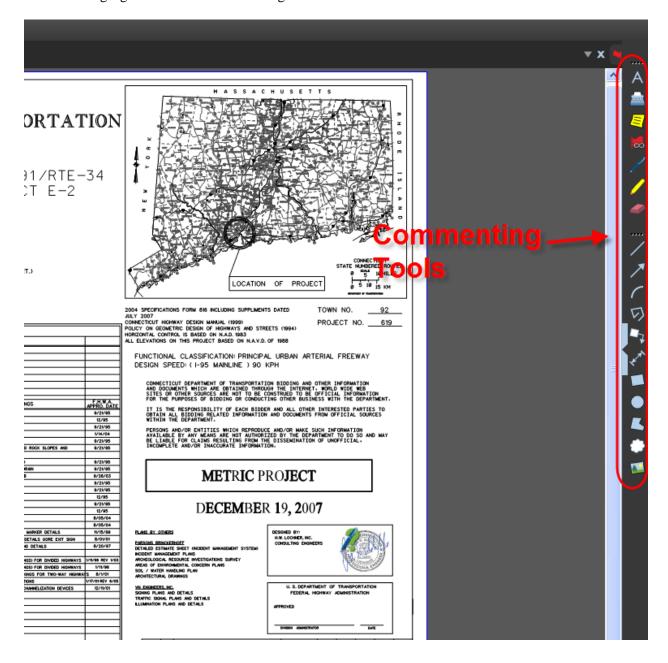
7.1 Digital Review

This section is in development.

7.2 Commenting Tools

7.2.1 Bluebeam
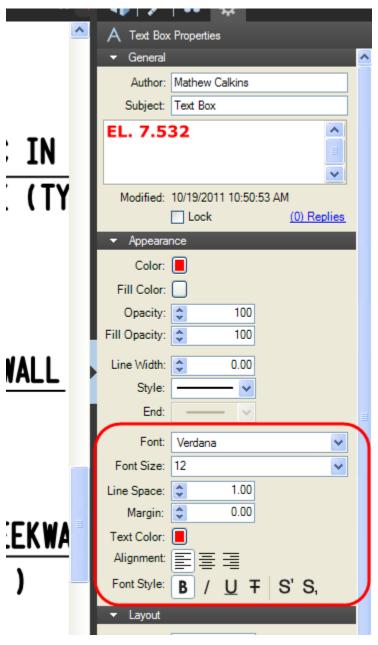
The following figures show the commenting tools in Bluebeam.

A   B   C D E   F G   H I   J   K L M   N   O P   Q R
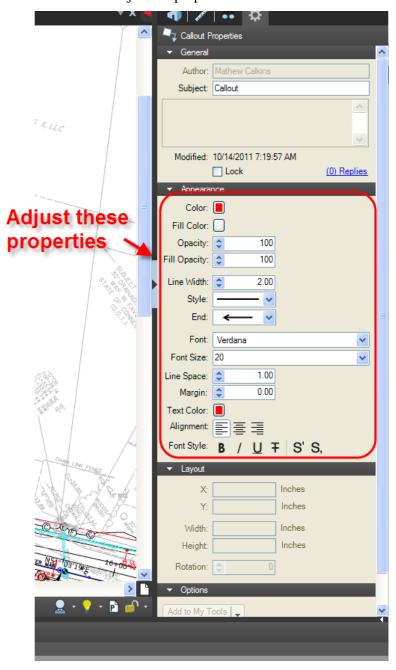
List and Settings for Commenting Tools

A. Text - All text shall be the color "Red" and the text for a general note shall be verdana size 12. The text for the X'd out Addendum and Change Order sheets, shall be **verdana bold** size 26. See below for details.
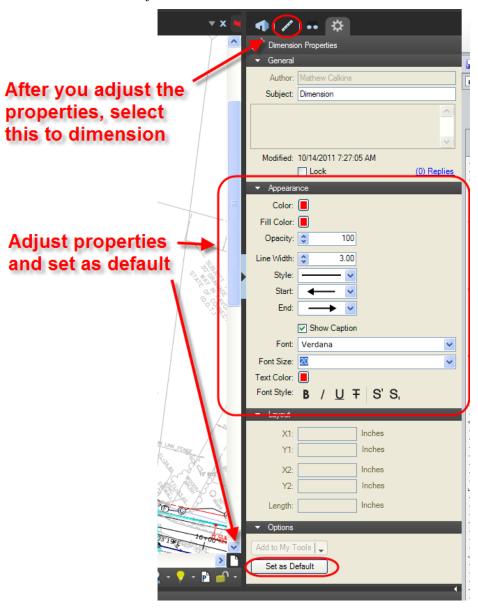

B. Typewriter – The text color shall be "Red" and Verdana size 12

C. Note – Use Default Settings

D. Flag – Use Default Settings

E. Pen – Use Default Settings

F. Highlight – Use Default Settings

G. Eraser – Use Default Settings

H. Line – Color = Red and line width = 3.00

I.   Arrow – Color = Red and line width = 3.00

J.   Arc – Color = Red and line width = 3.00

K. Polyline – Color = Red and line width = 3.00

L.   Callout – Adjust the properties as shown below:

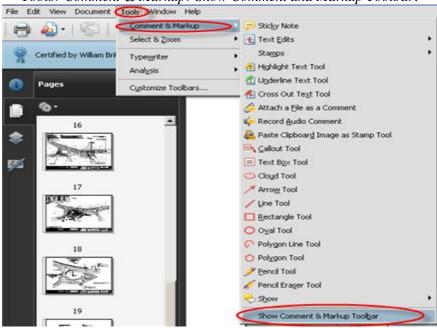M. Dimension – Adjust as shown below and click "Set as Default"

N. Box - Color = Red and line width = 3.00

O. Circle - Color = Red and line width = 3.00

P. Polygon - Color = Red and line width = 3.00

Q. Cloud - Color = Red and line width = 3.00

R. Picture – Use default settings.

7.2.2 Adobe Acrobat
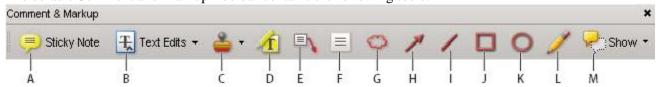
The following figures show the commenting tools in Adobe.

Open the pdf you wish to markup. If the Comment & Markup tools are not available in your menu bar go to:

Tools>Comment & Markup>Show Comment and Markup Toolbar:

Note: In order for the Commenting tools to be available, the *Extend Features in Adobe Reader* must have been enabled in the original pdf using Adobe Pro. If the commenting tools are not vavailable, please contact the owner of the document.

The default Comment and Markup Toolbar contains the following tools:

Comment & Markup toolbar and settings:
A. Sticky Note tool – use default settings
B. Text Edits tool – use default settings
C. Stamp tool and menu – use default settings
D. Highlight Text tool – use default settings
E. Callout tool – Verdana 12pt
F. Text Box tool– Verdana 12pt
G. Cloud tool – Weight = 2pt
H. Arrow tool– Weight = 2pt
I. Line tool– Weight = 2pt
J. Rectangle tool– Weight = 2pt
K. Oval tool – Weight = 2pt
L. Pencil tool– Weight = 2pt
M. Show menu

7.3 Digital Stamps

Stamps must be created for the watermark of the Engineer of Record's signature and stamps that are applied to sheets affected by Addendums and Design Initiated Change Orders, Working drawings, Shop drawings, Facilities submissions, and As-builts.

Note: If using Adobe, a stamp of the watermark is not required, this step is only for Bluebeam users.

7.3.1 Bluebeam Stamps

CTDOT users do not need create the Watermark stamp of the Principal Engineer, they are located on the X: drive is this location: X:\V8_Admin\Bluebeam Stamps\(Specific Discipline). Browse to the correct discipline folder as shown in section 7.3.1.2. Also located in this folder for CTDOT staff is the stamps for Working Drawings, Shop Drawings, and the Addendum or Change order cross out stamp.

7.3.1.1 Creating Bluebeam Watermark Stamp

The watermark in Bluebeam is placed using the stamp function. The first time you will need to create your stamp.

1. First go to Markup>Stamp> Create Stamp.

Figure 91 - Creating a Stamp

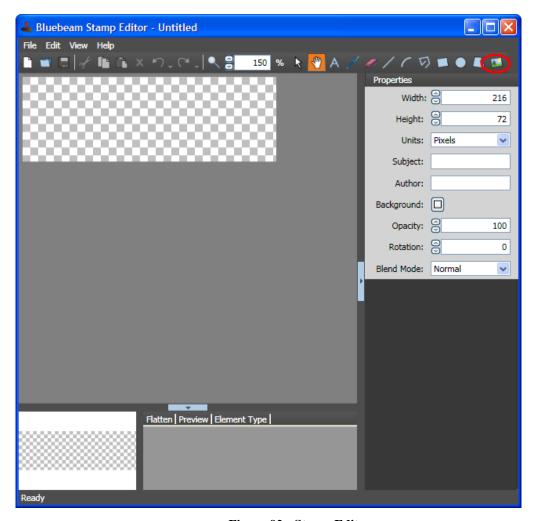2. In the stamp editor click on add image:

Figure 92 - Stamp Editor

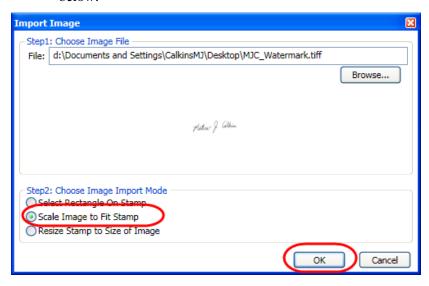3. Browse out to the graphic signature you created in Section 2.2 and follow the figure below:

Figure 93 - Creating a Stamp

4. Save your stamp in a folder on your computer and close the stamp editor.

5. Now in Bluebeam go to Markup>Stamp>Change Stamp Folder. Browse to the folder you saved your stamp in. After this your stamp will be available when you click Markup>Stamp:
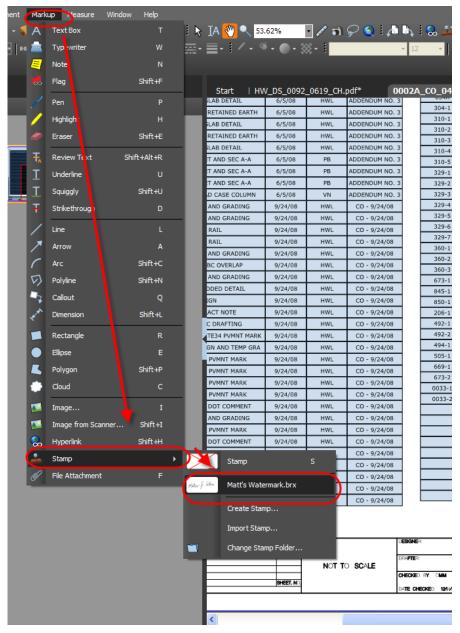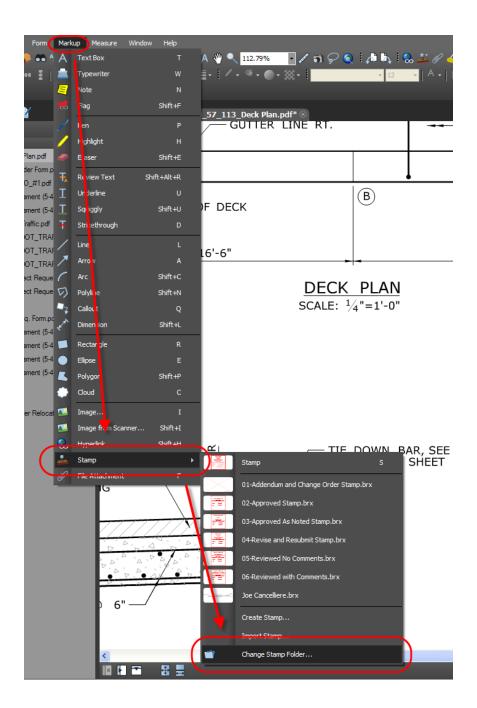
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Figure 94 – Watermark

7.3.1.2   Stamps

Consultants can download the Bluebeam stamp files from this link: CTDOT Stamps for Bluebeam. This stamp file contains all the stamps needed.

> Note: CTDOT users do not need to download the stamps, they are located on the X: drive is this locations: X:\V8_Admin\Bluebeam Stamps\(Specific Discipline). Browse to the correct discipline folder as shown below.

These stamps need to be downloaded into a folder anywhere on the user's computer; there is not a default location. The first time a user places a stamp they will need to browse out to the folder they downloaded the stamps into, as shown below:

Consultants are required to edit all of these stamps to include the Consultant Name and address. Below is an example of a Shop Drawing and Working Drawing Review Stamps:

Each user should adjust their user preferences so their name is applied to the stamp as shown above. To do this go to Edit>Preferences, then go to "General" and type your name in the User: line.

When an addendum or design intitated change order are submitted, the sheets affected must get crossed out with the apporiate note placed on them. Follow this workflow:

1. Place the Addendum and Changer Order Stamp.

2. Then using the "Text" comment tool shown in section 7.2.1 to place the notes required in section 4.4.

3. Then select flatten markups by selecting *Document>Flatten Markups*. Keep the default settings and select flatten.

7.3.2 Adobe Stamps

The following stamp files need to be downloaded to the user's computer and placed in this folder:

C:\Documents and Settings\User\Application Data\Adobe\Acrobat\8.0\Stamps\. CTDOT users shall download this file to the same location as above but instead of the C:\ it will be in D:\. With the "User" folder being the current user's login Username. If Acrobat version 9 is being used, replace 8.0 with 9.0 in the previous sentence.

Stamp Files

CTDOT_Plan_Stamp.pdf this is for the crossing out sheets due to Addendum and Change Orders.
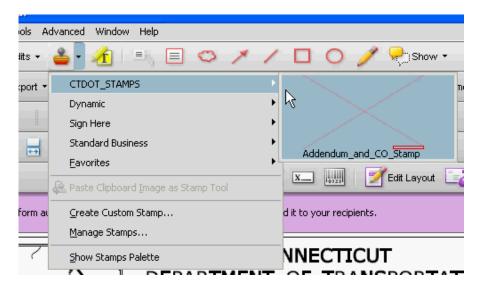
Contractor Submittal Stamps

Shop Drawing Stamps
Working Drawing Stamps
Facilities Stamps

These stamps will need to be updated with the consultant's information.

As-Built Stamps

As-Built stamps.pdf
Construction started and completed dates.pdf

The figure below is an example of placing the crossed out sheet stamp:

Place stamp in correct location, then fill in the dialog box with the correct text as required. If a mistake has been made, right click, delete and place again. After stamp is located correctly, right-click stamp, and select properties. From Stamp Properties dialog, select "Locked".